COAL AGE

The Only National Paper Devoted to Coal Mining and Coal Marketing

C. E. LESHER, Editor

Volume 22 NEW YORK, THURSDAY, AUGUST 3, 1922 Number 5

On the Last Lap

FACING an unprecedented coal shortage, the result of the combined strikes of union and non-union coal miners and certain railroad employees, the country is slowly awakening to the seriousness of its situation. It was pointed out a month ago that by Aug. 1 stocks would have shrunk to the danger point, and the curtailment of output caused by the rail strike, not anticipated at that time, has in fact accentuated this condition.

It is imperative that the production of coal be resumed. It is equally imperative that a sane adjudication of the points at issue be provided and that provision be made against future serious breaks of this kind. There is now but one force in this broad land that can accomplish either—public opinion.

Settlement of the rail strike comes first because without unrestricted transportation even the coal from non-union fields is locked in the hills. Moreover, more than can be furnished by these mines is necessary. Anthracite production, cut off for four months, must be resumed if the health and security of half the householders of the country is not to be further imperiled. Industries already are halting for lack of fuel and now largely dependent on depleted reserves, with priorities turning the restricted current output to the more essential requirements of transportation and public utilities, will in a few weeks reach the bottom of their coal piles and perforce shut down. Because it is midsummer and this country has always been able to worry along somehow through previous similar situations, the great body of public opinion is indifferent. It will not remain so indefinitely.

The miners will return to work when John L. Lewis permits. He arrogantly defies anyone to get his miners to dig coal until he says the word. The strength of his position lies in his appeal to the men to preserve their organization, the United Mine Workers, at any cost of suffering or deprivation. He has taken the position that to follow any but his policy would mean the disintegration of the union. On this basis he has held his followers in line despite the fiercest kind of internal disputes. John L. Lewis will permit the miners to work when his terms are met.

Or, the miners will return to work when a force superior to John L. Lewis compels him to abandon his high and mighty attitude—drives him from his rule or ruin policy. From January to the middle of July the two parties—miners and operators—had a free hand. In that time splendid opportunities one after another were lost by the operators nationally to educate the public and mobilize opinion in the direction of a sane settlement of the issues. The anthracite operators and those groups of soft-coal producers who, struggling alone, have built up a clear record must suffer now for the lack of a united national direction. The administration passed up the opportunity two months ago to set before the people in words as clarion clear as it now takes up the twin coal and rail strikes, the untenable position of the miners' union in the anthracite situation when, lengthy negotiations having failed, the operators made offer of unqualified arbitration and the miners refused.

Let us forget the lost opportunities and concentrate on the one remaining—to direct every energy toward breaking the strangle hold of John L. Lewis on this country. The one force that can now bring this about is public opinion. We were not half-hearted in our criticism of the administration as a conciliator last month. We will not be half-hearted in our support of it now that the President has taken charge of the coal strike in behalf of the American people. It will never be known whether the bituminous-coal operators unaided could have reached an agreement with the union. Whatever the ending now may be it will result from the pressure of public opinion generated by Mr. Harding. He has squarely met the call for protection of those who are willing to work. He is now mobilizing public opinion and when the time is ripe he will throw it into action.

That Commission

ONE happy thought seems to be common to everyone who talks or thinks about the coal situation—let us have a commission. A commission will find all the ills and aches in the coal industry and prescribe a cure, or possibly a series of cures. Everbody seems to know a lot of things that are wrong, or at least is sure that things must be wrong, but no one knows just what, or how to correct the errors. Therefore, a commission. The commission will take the facts we have, add to them, and do the thinking for us that these collated facts suggest. This is just what the situation demands. A commission that will do one-half the things it is now hoped it can accomplish will be the best thing that ever happened to the coal industry. It will explode a lot of myths, lay down some sensible rules of conduct and, although we have but slight hope of its reorganizing the bituminous-coal industry, it will be able to expound some healthy truths about the existing forms of doing business.

Commissions on coal almost without number have been proposed in the past three years, in every instance in some form of legislation objectionable alike to operator and miner. The objections have all centered around the idea that the suggestions were designed to initiate regulation of the coal industry—wages as well as prices—through the opening wedge of compulsory fact finding. In some instances it has not been so much the actual legislation that has aroused hostility as it has been the obviously hostile spirit prompting it. The spirit of President Harding's suggestion is so entirely

free from taint of partisanship that the only one to object to his commission will be he who wants to hide facts. It cannot be otherwise than that he will appoint as commissioners men from all walks of life—eminent and unbiased. Neither miner nor operator should expect representation. It would be a modern marvel, indeed, if employee representation should produce other than a minority report, which in turn invariably results in some form of strike in protest of the majority.

It will be quite important to have the jurisdiction of this commission clearly and properly defined in advance. If it is to be an arbitration board then it can have jurisdiction over none but those party to the present controversy. The President has so indicated, to the dismay of the miners, who want nothing better than to have the government drag the non-union operators in the room where they are sitting.

On the other hand if the commission is not for compulsory arbitration and is but to investigate and study the coal industry, if it is to do any of those very important things which Mr. Hoover has indicated should be done and which some of the miners and some of the operators have advocated, then it must take in the entire coal industry. It must be national in the scope of its investigation, but with no power to force its decisions. The President has also indicated that he expects his commission to work that way too. Of course, it cannot do both and he will decide which of the two he desires the most.

The attitude of the United Mine Workers toward a commission is expressed in the following words from their reply to the President's proposal of July 10: "When all the facts bearing on the production and distribution of coal have been collected and impartially analyzed, we shall gladly face these facts and accept them as a condition to the rehabiliation of the coal-mining industry." Those who are familiar with the readiness with with this union "accepts" findings other than its own will know best what credence to give this fine assertion.

Mr. Ogle, president of the National Coal Association but speaking for the *union* coal operators *who attended* the President's conference on July 1, urges the immediate appointment of a fact-finding commission. The other union and the non-union operators have not so specifically expressed themselves on this matter. They have not been asked to, in fact.

As for the public, that part which has made itself heard is solidly for an investigation of everybody and everything connected with the coal industry. The idea of a commission is popular.

There will be a commission. When it comes time to lay their respective cases before that body the miners will be prepared and the operators will not be ready. The miners were ready last month, last year. They are regularly preparing data and arguments in support of their policies and positions. Such in fact is now the regular practice for all large labor unions. The union can give you a printed book, right up to date, on any subject from the "Hazards of Coal Mining" to the "Sanction of the Living Wage." The very weight, in pounds avoirdupois, of their evidence is impressive. They know what they want to prove, and they get the figures to prove it.

There is just one point to what has gone before. Operators who have any hope of defending their cause before whatever type of tribunal or commission is certain to come, and soon, will do well to inquire into the modern style of conducting such bodies and get ready. They cannot expect anyone to prepare their case for them. The commission will gather its facts by way of evidence introduced—not by digging it out itself. The facts on which it bases its conclusions will be those placed before it.

Will Miners Expose Themselves to This?

THE miner's qualification acts on the Illinois and Indiana statute books are precious to the United Mine Workers of America. The organization would surrender a good deal of ground undeniably gained by one means or another since April 1 rather than see those acts repealed. By that very fact a weapon of defence against coal famine is laid in the hands of the voters of those two states. "I'll call a special session of the Legislature and repeal the Indiana act," declared the stalwart Governor of Indiana the other day. "Don't," pleaded the state president of the miners; "give us forty-eight hours more," and in his voice was the fear of the whole mine union organization. Repeal of the qualification act, behind which the union is solidly intrenched against the open shop, would be a disastrous blow to unionism.

In Indiana there is a strong possibility that the Legislature, if assembled in special session, would actually effect the repeal. In Illinois the issue would be in graver doubt. Illinois operators have made no recent move against the act and might not favor a repeal even if it were in prospect. Instead, operators there are inclined to take the position that the Governor should declare a suspension of the state mining laws during the present emergency and, with martial law in effect in the mining districts, protect sufficient non-union men in the workings to prevent suffering for coal.

However, if higgle-haggling continues in the national coal-mine situation and the country begins keenly to suffer for coal, public pressure upon the Indiana and even the Illinois legislature to force the mines open to non-union labor may become irresistible. If the United Mine Workers of America, in their desperate ring battle with the operators, permit strike conditions to reach that point, they will have exposed a vulnerable spot upon which outraged spectators climbing over the ropes may land a wicked punch.

THE MORE URGENT WORK of taking care of a car shortage has compelled the Interstate Commerce Commission to suspend hearings recently inaugurated on the subject of car service rules—that is, on how to distribute cars during a shortage. The last car shortage was two years ago, and since then there has been admitted necessity of giving consideration to a revision of the rules of car service. It is said that down in Arkansas they never fix the roof while the sun shines, because it does not need it, and when it rains, they cannot.

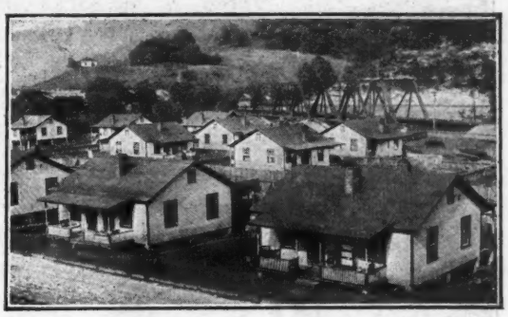
THE COAL DEADLOCK invites picking.—*Washington Post.*

IT LOOKS AS IF the tariff bill would clap a big duty on returning prosperity.—*New York Tribune.*

SINCE IT STARTED on the first, why not call it the April Fuel Strike?—*Manila Bulletin.*

After a while, perhaps, the leaders of certain unions will discover that wages cannot be hoisted with bombs.—*Columbia Record.*

Merrill Mine, Its Housing Problems, Gravity Chute And Other Original Features



Village Located Convenient to Town—Men Travel to Mine on Railroad Train—Experience in Handling Partings in Coal—Assembling Empty and Load Trips—How Supplies Reach Mine

BY ALPHONSE S. BROSKY*
Pittsburgh, Pa.

IN WEST VIRGINIA coal operations are scattered and travel on the railroads is slow and arduous. In consequence it is necessary that each town be complete in itself, and to hold its men a company must provide such a town unless it can locate its village near one of the thriving centers that West Virginia is rapidly developing. While lack of easy communication makes the mine worker of that state less disposed to wander from operation to operation, it is a distinct disadvantage where a company seeks to add to its working force.

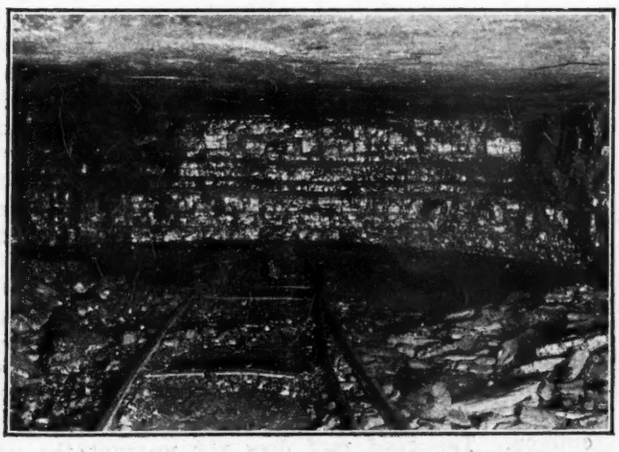
At some of the mines the valleys from which openings are made are so narrow that place for a town can hardly be found anywhere near the operating point. The Merrill mine, on Little Buffalo Creek, three miles west of the main Guyan Valley-Logan Branch of the Chesapeake & Ohio R.R., is in this predicament. A branch road built by the company runs up Buffalo Creek from the main line to the mine, but the town of Henlawson, where the men employed live, has been located almost from necessity where the two creeks meet and the branch forks from the main line. It lies at a point not far from the City of Logan, which is the center of the activities of this field.

The Merrill Coal Co., which owns the mine, has a little more than 4,000 acres of coal land which lie under the two mountain chains that flank Little Buffalo Creek on either side and extend from the mine to the village of Henlawson, the mine openings and the tipple being at the eastern end of the property. In the valley some building land is to be found, but had it been used the men would have been located conveniently neither to the mine nor to the main line and the town of Logan. Furthermore, a dirt road up the valley would have had to be maintained. Consequently it was thought best to build at the present site and transport the men by railroad.

On the three miles of track that the company owns it operates one 40- and one 60-ton shifting locomotive and two passenger coaches. A labor train leaves the town in the morning in time to get the men to their work at 7:30 a.m. As there are no houses in the valley all the 162 men employed at the mine travel to and from work on the labor train. This is run by the company, for, as at many other mines located off the main lines of railroad, the company finds it advantageous to use its own shifting engines. This insures the prompt delivery of cars from the main line to the mine and also guarantees daily removal of the loads. The railroad grade is in favor of the loaded cars, so that the number of cars taken out of the valley is almost unlimited, but only ten empties can be hauled upgrade to the mine.

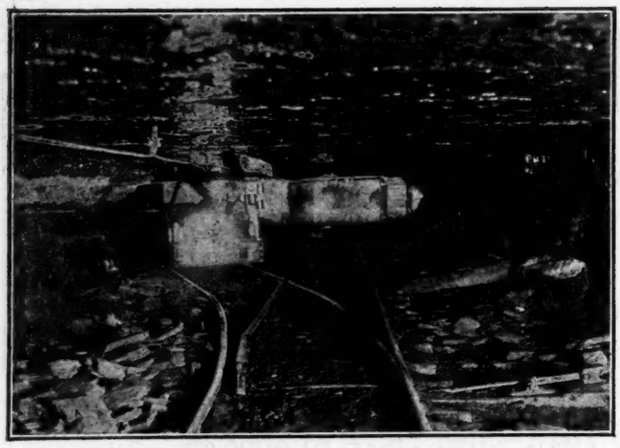
Three workable seams outcrop from the two ranges, the Winifrede, the Alma-Draper and the Island Creek, but the latter is the only one being worked at the present time. As the coal is mined out the workings will approach the village and eventually the men will be entering the mine and working at points near home. The coal has no unusual dips and the grades are slight, consequently the main haulageways may extend for considerable distances along the principal axis of the mountains, and coal may be brought out to the surface entirely through one main drift or it may be taken through several drifts and trammed along the mountain side to the tipple. When the haulages become too lengthy and an increase in production is desired, addi-

*Bituminous editor, *Coal Age*.



FACE OF ROOM, SHOWING METHOD OF CUTTING COAL

Though mined by an arcwall machine, the cut is made near the floor. At first it was cut between the lower slate bands shown, which are at a maximum 1½ in. thick and not persistent, but it was found undesirable to cut the coal in this way, for the slate too often was broken in pieces and was smaller than could be removed satisfactorily on the picking table.



GATHERING LOCOMOTIVES DO ALL UNDERGROUND HAULING

Six-ton reel locomotive bringing thirteen loads from the First Flats Left. The curves leading from the mains to the flats are of 100 ft. radius; those which join butts with flats have a 75-ft. radius. The room curves are laid to a radius of 25 ft.

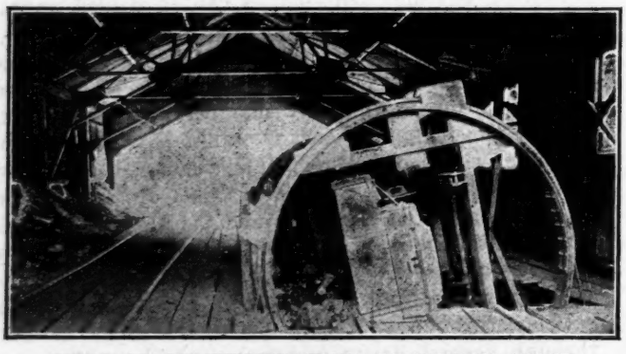
tional tipples may be erected at intervals from the present mine to the town. Future plans call for the erection of four additional tipples to take the coal from the two hills, thus reducing the length of the underground haulage.

The Island Creek seam at this place has an average thickness of 6 ft., and the slate roof is so unusually strong that few timbers or props need be used even along the roadways of wide rooms. Three streaks of slate which attain a maximum thickness of 1½ in. appear and play out from place to place.

The lowest streak appears 3½ in. from the bottom, and the other two streaks above are separated by 4 and 8 in. of good coal. The coal is undercut with arcwall machines and where the bottom rolls the cut is kept several inches above the floor. The bottom coal is easily removed by shovels. Where the coal is undercut it is brought down by the usual method.

An attempt has been made to cut between the first and second slate streaks, using the arcwall cutter, but it was found that after shooting the slate was badly broken up and the coal obtained was not as clean as with undercutting. The idea was abandoned, therefore, as undercutting and shooting permit the removal of the slate in pieces of a size suited to picking.

Most of the cleaning is done on the picking tables. The slate does not always fall free from the coal, and in such cases the loose slate cannot be removed in the mine and that which clings to the lump coal must be loaded out. During periods of operation when the coal passes over the picking tables in large quantity the



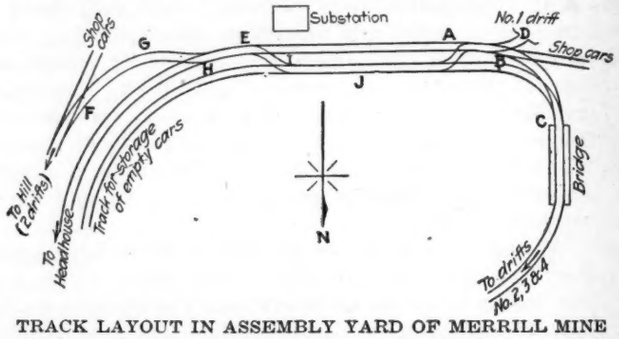
HEAD OR DUMPHOUSE WITH REVOLVING DUMP

The mine cars have swivel couplings, so that they can be dumped without uncoupling. The track on the left is for empty cars.

pickers do not have time to knock the slate from the lump coal. In consequence it is the practice at this mine to pick from the table the chunks of coal having adhering slate, depositing them on the tipple deck so that during periods of no run the pickers can wield their hammers and clean the accumulated lumps of their impurity.

At the tipple the Island Creek seam lies 300 ft. above the railroad track, the headhouse lying, however, approximately midway between these two elevations. Coal is trammed from the point where the trips are made up, which is in the vicinity of the substation and not far from the drift mouths, to the headhouse, a distance of one mile, the grade being 3½ per cent in favor of the loads. Further details regarding the surface haulage arrangements will be given later.

The two mountains under which the coal lies come together at the upper end of the creek. It is at this point that the first drifts, or, as some would say, "the first mines," are being worked. The tipple, as was mentioned above, lies one mile from here, down the creek. Remembering that the coal area describes a long and narrow U the working-out plans may be followed easily. At the present time most of the coal comes from drifts emerging from the curve of the U.



TRACK LAYOUT IN ASSEMBLY YARD OF MERRILL MINE

Because the coal is brought in six to ten loads to a trip by gathering locomotives and comes in from many directions the problem of yarding the cars at the surface is not easy, but ample trackage insures minimum interference and delay.

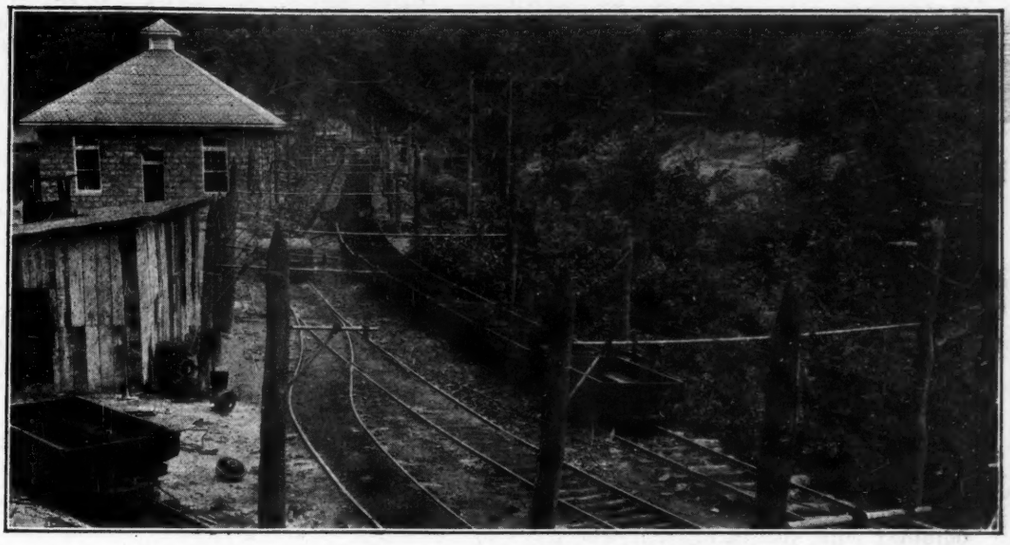
Four drifts have been driven to win the coal at the juncture of the main bodies on either side of the creek. Of these, No. 1 drift is the only one of any importance, No. 3 and No. 4 drifts having been worked out, with No. 2 in the last stages of pillaring. An irregular body of coal to the east will be worked out during the coming year, leaving the two long arms on either side of the creek to be operated in an approach to the town. No real developments have been made in the northern arm. Access is gained to the southern arm through No. 1 drift, which is the principal opening. As necessity requires other drifts will be opened progressively in the direction of the tipple and the town. When the haulages to the present tipple become too long and when other conditions favor the action, other tipples will be erected to the east of the present one.

Because of the exceptionally firm roof, rooms can be driven 24 ft. wide on 60-ft. centers without any extensive timbering along the track. They are 300 ft. long, driven in one direction only. In No. 4 drift rooms were driven in the same manner on 80-ft. centers. The procedure was found particularly valuable near the outcrop. The good roof does not warrant the wide center elsewhere, however.

On the main hauls and the tramroad 50-lb. rails are laid on a 44-in. track gage. In the rooms and on the butts 25-lb. rail has been laid. Steel ties are used

Assembly Yard

A large motor with a trip of twenty-five cars is headed for the dump house near the tipple. After it has pulled out the smaller gathering locomotives each will bring from six to ten loads and assemble them into a trip. The substation is the only permanent building in the illustration. A steel-and-stone machine shop measuring 40 x 100 ft. will be built soon.



in the rooms and also on the butt entries. They have been adopted as standard equipment for room track in a majority of the mines of West Virginia, having been more generally used in that state than in Pennsylvania. I sometimes wonder why it is that the Keystone State is slow in adopting the steel tie in place of wood for room work. Surely it is easier to handle, has a longer life, costs less, maintains a uniform gage and for room work is more rigid than the wood tie as usually laid. Where the grades are light it may be adopted even for laying track in the butt entries, as is the practice indeed at the Merrill mine. This company has experienced no difficulties from spreading or insecure rails in the butt headings where they have been laid on steel ties. However, their use is not to be recommended where grades of one or more per cent are encountered.

In turning the butts off the flats, however, the curves are laid with 50-lb. rail on heavy wooden ties. Extreme care must be exercised in putting down the curved track, and the joints made by the light and the heavy rail must be aligned accurately and firmly joined, else the gathering motors with their trips may encounter trouble in hitting the "straightaway" at usual curve speed.

The air butts are utilized as storage tracks for empties and the live butts from which the rooms are driven serve for storing loads. Just now five 6-ton motors are used for both gathering and hauling coal. When the workings have been extended, however, larger motors will be required for the main haulage. The gathering motors will deposit the loads on the main or straight roadway of one of the live butt entries near the curve. After backing the allotted number of empties into the aircourse butts, the main haulage motor picks up the loads from the tracked butts. Then the gathering motors have easy access to the empties through the first break-through off the flat, a distance of 80 ft.

At most operations in this state where the coal lies some distance above the railroad, the problem of transporting supplies to the coal horizon is solved by a plane and a hoist. The grades in most cases are steep, so that a self-propelled trip is not practical. Thus an ordinary mine-car truck is fitted with a body best suited for the supplies handled, and this is raised and lowered by a hoisting engine placed either at the top or foot of the hill. At the Merrill mine the industrial track is laid on a 15-per cent grade, switching back once and maintaining the same grade to the tramroad over which the coal passes. The industrial track does not cross the tramway at right angles, as is the usual practice, but is in reality a continuation of the tramway, being located on the side of the headhouse opposite from the mine. Supplies are carried to the mine openings by means of ordinary mine cars hauled by a 6-ton motor, two cars to a trip. After leaving the loading point the trip can make connections to any one of the drift mouths, passing over the empty track through the headhouse and thence to the single track or tramway. There are no pauses during a trip from the bottom landing to the destination. In the old system of hoisting supplies the cars are raised some distance above the tram track and are then dropped down on a switch to the tramway. Here a motor is coupled to the car, and both proceed to their destination.

The yard track in the vicinity of the substation is laid out in an interesting manner. One of the illustrations shows the track arrangement looking toward the substation and No. 1 drift. Another is a plan sketch of these tracks so designated as to aid in explaining how trips are made up ready for their movement to the tipple. Five 6-ton motors gather loads at the faces and, as the workings are not extended, carry them to the assembly yard. In the plan the trip of loads on the left track is headed by a 10-ton motor which is ready to move to the tipple. Immediately after this trip had pulled out a trip of ten cars emerged from No. 1 drift on track *A*, and crossed over at *B* to track *C* on the bridge; the motor then pulled into the clear at *D*. That trip was followed by ten more loads from No. 1 drift which pulled out and backed into the loads standing on the bridge.

The second motor then pulled out light and crossed over at *E*, where it picked up a trip of 20 empties from track *J*, backing into No. 1 gathering motor, which was waiting at *D*. The trip of 20 empties with a motor in the front and the rear proceeded inside No. 1 drift to the flats. Here the trip split in two, No. 1 motor pulling its quota to the First Flats Left section and No. 2 motor backing its trip into the First Flats Right section. Then a trip backed down off the hill on track F, directly in front of the loads which had been deposited by No. 1 and No. 2 motors on the bridge.

No. 3 motor then pulled to the clear, going light, and waited at point *G* until the big motor returned from the tipple with a trip of empties. The empty trip from the tipple on arrival pulled up on track *A* to clear the end of the trip at *H*. The No. 3 motor, which had been waiting at *G*, then backed into this trip of empties, and pulled it up the hill over *G* and *E*.

It then backed down and over the crossover *I* to the storage track *J*, where the cars above the number required on the hill were dropped, and the empty trip then pulled for the hill. The big motor with a trip of 25 to 30 loads then started with the tracks cleared for the tipple. A round trip from the yards to the tipple can be made in twelve minutes.

Because of the variation in the schedule and the quantity of coal coming from the several mines at different times this description does not hold for all car assemblies, but it does give one an idea as to the flexibility of car, trip and motor shifting that may be obtained with such a layout. The large motor makes from 18 to 20 trips per day to the headhouse; as a 2-ton mine car is employed, a 25-car trip averages 50 tons, or 900 to 1,000 tons per day.

Rotary Tip Dumps Cars While Coupled

About 150 ft. west of the headhouse the single tram track gives way to a double track, one a load and the other an empty track passing through the headhouse and continuing out past the other side for some distance, acting as storage track. The load track is a straight-line continuation of the tramway. The headhouse is about 150 ft. above the railroad tracks over which the tipple stands. The headhouse is equipped with a two-car air-operated rotary dump arranged for dumping trips while still coupled. A 75-cu.ft. compressor, running at 190 r.p.m. and driven by a 10-hp. induction motor, supplies air at 90 lb. pressure. After leaving the dump the trip progresses by gravity to the empty-storage track, where it is picked up by the big motor on its return with the next trip of loads.

The coal drops by gravity from the cars down a concrete chute placed on a 35-deg. slope ending in a 15-ton feed hopper. The chute is 94 ft. long and 17 ft. wide. The slope of this chute is greater than usually is adopted, but as the tipple is designed so that coal may drop by gravity directly into a car on the first track as mine-run, if so desired, the slope was made great enough to insure the sliding of the slack coal in a wet condition. The chute is large enough to allow for the storage of 180 tons of coal.

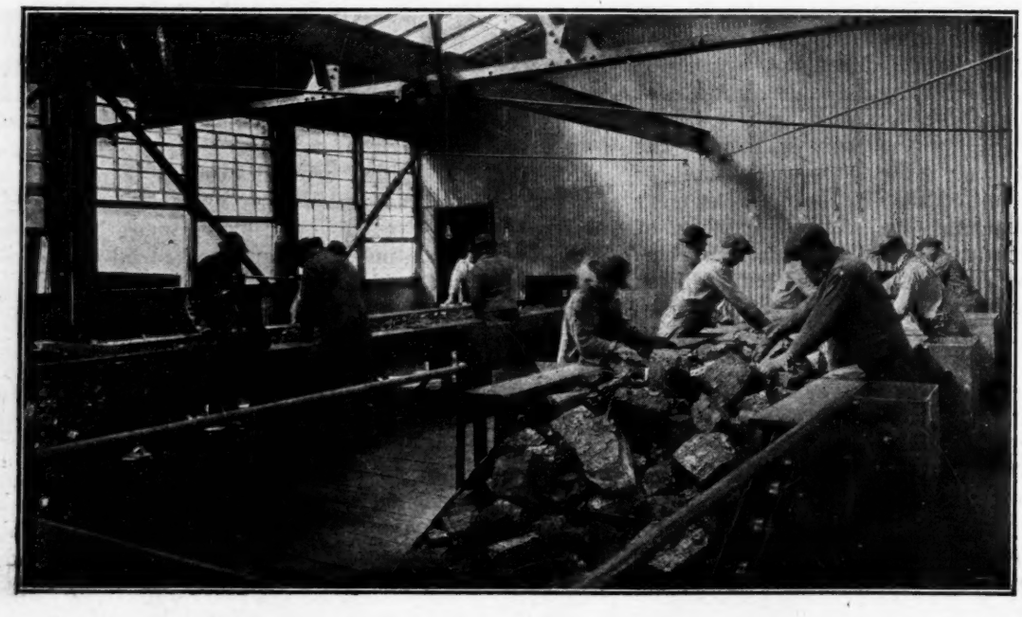
An apron feeder provides for the passage of run-of-mine coal at a rate of 300 tons per hour to the shaker screens, which are designed for preparing lump, egg and screenings. The lump and the egg pass from the shaker screens to picking tables, one for each size, running parallel to the railroad track and arranged for 20 ft. clear picking space. Each table has a pivoting loading boom for lowering the lump and the egg into the railroad cars. Screenings are loaded directly into cars by means of chutes.

Can Load Run-of-Mine with Machinery Idle

Emergency run-of-mine may be loaded direct through a chute from the receiving hopper to a car on the slack track without operating the tipple machinery. Refuse from the picking table passes by chute to a conveyor and thence to a refuse bin across the tracks from the tipple. Picked run-of-mine may be loaded at the end of the lump loading boom, the coal being separated for picking and reassembled at the loading point.

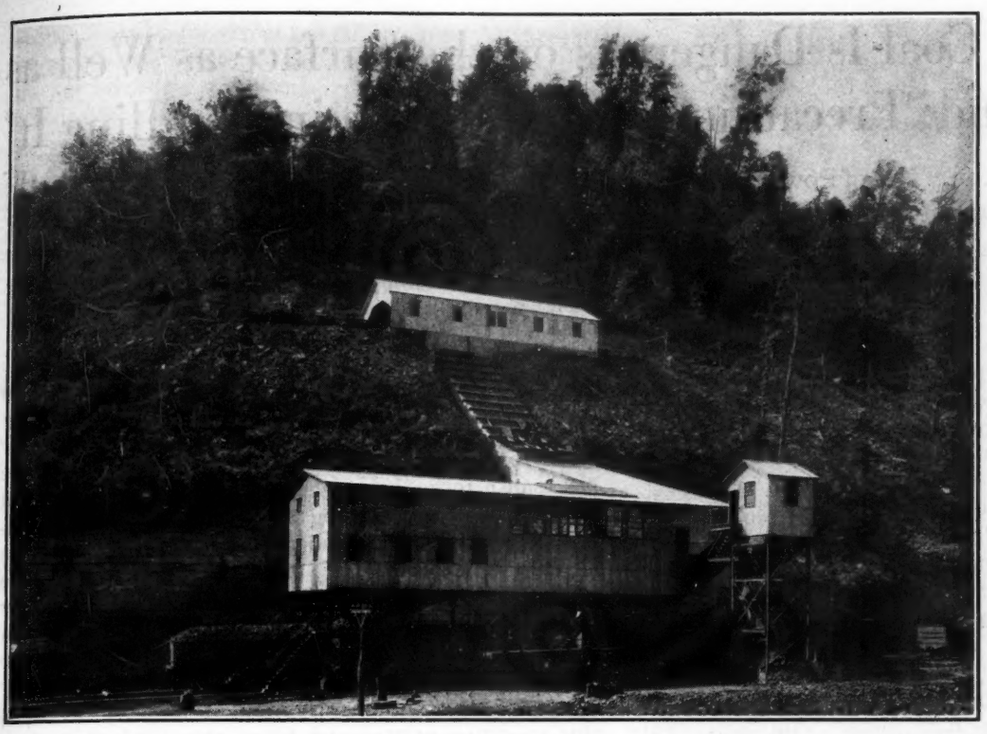
The receiving hopper is of steel and is fed directly from the concrete chute, the flow of coal being controlled by two slide gates operated from the loading platform alongside the slack track. The run-of-mine feeder is of the apron type with 36-in. pans riding on a steel thimble roller chain at the rate of 30 ft. per minute. The shaker screens are of the two-section balanced and stepped type. The upper screen has 1¼-in. openings for separating the slack and the lower screen has 3-in. openings for separating the egg from the lump. The discharge end is so designed as to place the coal on the picking table without breakage. The screens are driven by babbitted eccentrics of ball-and-socket type and steel rods, the flywheels being located on the eccentric shaft. The screens are driven by a 30-hp. motor which also drives the picking tables and the mine-run feeder.

Each of the picking tables is large enough to accommodate ten men. As already mentioned, three thin bands of slate are found in the coal, and these must



Picking Tables

These tables are 20 ft. long in the clear, so that ten men can work handily at each table. When the coal comes fast, however, time is not provided to knock off the slate and the men unload the coal with attached impurity onto the tipple floor, completing the cleaning when coal is not being dumped. The slate chutes discharge refuse to a steel-thimble roller-chain conveyor.



Tipple with Steep Coal Chute

Coal is brought from the mine to the dumphouse, which is shown on the side of the hill, and passes down the steep coal chute to the tiple. The refuse from the picking tables goes to the slate tower and is dumped into a railroad car, where it is used for filling between the tracks and on the sides of the single track further down the creek. The track between the tipple and the slate tower runs to a timber tract in the mountains nearby.

be slabbed from the lump and picked out when loose. Two feet of clear picking space is apportioned to each man. The discharge ends of the tables for a distance of 31 ft. are mounted on pivoted frames, forming loading booms for lowering the picked coal into cars. The conveyor chain is of the pitch-steel roller chain type with 4-ft. carrying pans and a speed of about 60 ft. per minute. The trough of the scraper conveyor is formed of two channels and bottom plates. the flights are carried on a 9-in. pitch steel thimble roller chain driven by a 15-hp. motor at a rate of approximately 80 ft. per minute. The tipple was designed, fabricated and erected by the Pittsburgh (Pa.) Coal Washer Co.

The illustration in the title head shows part of the village of Henlawson, the rest being cut off by the heavy foliage on the surrounding hills. There are eighty-four of these fabricated houses, fifty-four of which are equipped with a bathroom. Each house has four rooms. They shelter eighty-five families and several single men. As 162 men work at the Merrill mine there are about two men to each house or two rooms to each man.

Spiral Dump Is an Old Idea in a New Form

PAUL STERLING, mechanical engineer, Lehigh Valley Coal Co., Wilkes-Barre, Pa., calls attention in a letter to *Coal Age* to the fact that the dump shown in the article entitled "By a Twist in Track Cars Are Turned Partly Over, Dumping Contents" is quite similar to one built many years ago.

The article to which Mr. Sterling refers was written by A. F. Brosky and appeared in *Coal Age* of July 13, 1922, page 50. It describes a dump wherein the rails and wheel grips are spiraled through a certain number of degrees, first one way and then the other. Cars passing through such a dump under the influence of gravity or otherwise are tilted to such an angle that their contents are discharged, after which the cars are righted.

Mr. Sterling says in part: "This is a highly interesting dump but it is not new, as the Vulcan Iron Works built one of a similar type October, 1904, for the Amsbry plant of the Pennsylvania Coal & Coke Co. I saw the original model and also the completed dump (see accompanying illustration) when erected in the shop.

"I also note that in the article the claim is made that no power is expended in dumping. I doubt that statement. It would be theoretically impossible to dump without expenditure of power unless the car turned about its center of gravity without horizontal movement. The device built by the Vulcan Iron Works was designed and constructed according to the ideas of W. A. Lathrop, at that time president of the Pennsylvania Coal & Coke Co."

CAR BEING TILTED AS IT TRAVELS OVER FIXED DUMP

In this illustration the bottom of the inside of the mine car may be seen. Two rails are discernible, one remaining approximately on the running grade and the other dropping heavily so that the car is tilted over. The wheels of the car can be seen running on the lower rail. The combination steel-and-wood rails at wheel-diameter distance from the steel rails serve to prevent the car from overturning.

Pulverized Coal Is Dangerous on the Surface as Well as Underground; Precautions to Be Taken in Handling It*

Cleanly Use of Powdered Coal Essential to Safety—Switches and Generators Have Been Known to Ignite Dust Clouds—Dangerous to Overheat Drier—Beware of Fire in Circulating Pipes

BY L. D. TRACY†
Pittsburgh, Pa.

PLANTS in which pulverized coal is used should be carefully inspected, and the owners and operating forces should be impressed with the absolute necessity of reducing to a minimum conditions that tend to raise or ignite a cloud of coal dust.

This latter term is used advisedly. Pulverized coal in bulk is not especially hazardous, but as soon as it is raised into a cloud and mixed with air it becomes as dangerous as an unconfined body of gas. It takes only a small quantity of coal dust per cubic foot of air to form a highly explosive mixture. In tests by the Bureau of Mines 0.032 of an ounce of Pittsburgh coal dust mixed with a cubic foot of air has been found sufficient to cause an explosion when brought in contact with flame. Perhaps this danger can be visualized more readily when it is stated that all that is needed to produce such an explosion is a quantity of coal dust that can be heaped on a silver quarter of a dollar mixed with the air contained in a 12 x 12 x 12-in. box. Such a mixture needs only an open light to cause it to explode.

Some time ago the Bureau of Mines demonstrated the inflammability of powdered coal at its experimental mine. A large funnel containing pulverized coal was connected to a compressed-air line and a short distance away a piece of burning waste was placed on a small rod driven into the ground. The air was turned on, raising the coal dust into a cloud which was blown across the burning waste. Prompt ignition of the coal followed.

One form of coal dust which is exceedingly dangerous and to which perhaps too little attention is paid is that coming from small heating furnaces in which pulverized coal is used as a fuel. These furnaces are comparatively small and are used principally to heat bars and rods for small forgings. They are somewhat like the old-style blacksmith forge, being generally provided with a hood over the fire for carrying away the fumes. The pulverized coal is shot in under pressure and sometimes all of it is not completely burned but goes off into the surrounding atmosphere as floating dust which finally settles all over the platforms around the furnaces, on the beams and girders of the buildings and any other place upon which it can lodge.

I once made an investigation of a plant in which this condition existed and found this kind of dust all over the building. Samples were taken and analyzed. Many of these samples were not much different from a poor grade of pure coal.

A rather peculiar accident happened some time ago from dust of this kind in one of the Pittsburgh steel mills. At one point in the building an electric switch was so situated that dust could settle between the poles. One Sunday, when the mill was shut down, sufficient dust accumulated to form a short-circuit, and as a result a whole panel of the switchboard in the power house was burned out. Many accidents have occurred practically all of which were due to the dusty and unclean condition of the buildings.

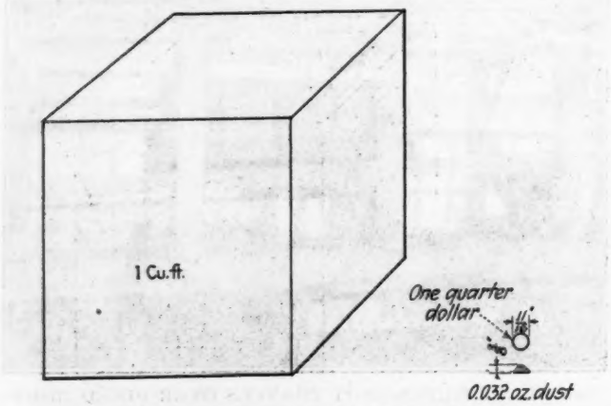
Some hazards, however, are more or less connected with the apparatus used in pulverizing the coal and delivering it to the point of consumption, and though it is true that reduction of the fire and explosion risks rests largely with those operating such plants yet much can be done through proper inspection by well-informed authorities having proper jurisdiction. In order to get an adequate understanding of these hazards and their remedies a working knowledge of the methods and machinery used in pulverized-fuel plants is necessary. A brief description of these methods and equipment therefore may be of value.

Before coal in a finely divided state can be used for fuel it must be crushed, dried, pulverized and conveyed to the furnace or boiler where it is to be used. Generally speaking three distinct classes of pulverized coal equipment are in general use. These may be designated as (a) the circulating system, (b) the indirect system and (c) the unit system. The first two mentioned employ practically similar processes, varying perhaps in detail, but differing chiefly in the manner in which the pulverized coal is transported to the furnaces.

In the circulating system, after the coal has been pulverized it is fed in regulated quantities to a fan, by which it is forced in a cloud through pipe lines with diameters ranging from 8 or 10 in. up to 14 or 16 in.

*Article entitled "Fire Hazards in Plants Using Pulverized Coal," read before the Fire Chiefs' Club of Ohio at its annual convention at Columbus, Ohio. Published by permission of the Director of the U. S. Bureau of Mines.

†Coal-mining engineer, U. S. Bureau of Mines.



WHAT A LITTLE PILE OF COAL DUST WILL DO

As much coal dust as you can pile on a quarter will suffice to fill a whole cubic foot of air with enough dust to cause an explosion. No wonder that the French use vacuum dust collectors above their screens. Dust is a real menace in our coal tipples and should be avoided.

Branch lines leading from the main line to the furnaces carry such coal as may be needed and the surplus, which has not been drawn from the main line, is returned to a point near where it started, where a separator removes the coal dust from the air and returns it to a storage bin to be blown again through the line.

In other words this system embodies a continuous circulation of coal dust. It is somewhat analagous to a gas line where the fuel is drawn off as needed. Secondary air lines, independent of the main coal feed, provide the additional air at the burners necessary for proper combustion.

The indirect system transports coal either by means of compressed air under possibly 50 to 90 lb. pressure, a screw conveyor, or a combination of air and screw conveyor to bins at the furnaces. From these bins the pulverized coal drops into a small screw conveyor by which it is either fed to an air blast which carries it into the burner, or directly to the burner itself.

Directly and Indirectly Fired Types in Use

An important feature of this method of utilizing pulverized coal as contrasted with the circulating and direct systems is the entire absence of a drier to expel the moisture from the raw fuel.

Two types of these driers, the directly and the indirectly fired, are at present in use. The former type consists practically of a long shell from 3 to 5 ft. in diameter, at one end of which is a furnace and at the other a stack. The hot gases pass through the center of the shell, coming in contact with the raw coal, which is fed into the drier at the stack end.

The indirectly fired drier generally is one of two kinds. The first is the double-shell type which consists of two cylinders, one inside the other. The raw coal travels through the inner shell and the hot gases move in the opposite direction in the space between the two cylinders, after which they return through the inner shell to the exhaust stack.

The other kind has an inclined single shell, the higher end of which terminates in a brick housing supporting the exhaust stack, and the lower end in a steel hood. The furnace for heating the drier is placed between the stack chamber and the hood. This furnace is provided with a large combustion chamber through which the drier shell passes. The hot gases from the combustion chamber of the furnace circulate around the outside of the drier shell.

Drier Is a Potent Factor in Explosions

The drier, directly and indirectly, doubtless is the cause of a large percentage of the fires and explosions which have occurred in coal-pulverizing plants. On the man operating the drier—by this I do not mean the man in general charge but the one actually shoveling the coal—is placed a great responsibility, akin to that laid on the man in charge of a battery of boilers. I sometimes think that the average factory or power-plant superintendent little realizes this fact. If the man tending a boiler forgets to keep the water therein at the proper level, something pretty costly is likely to occur. If the man tending a drier happens to perform his duties improperly and allows the furnace to become too hot the chances are that there will be work for the fire department in that vicinity.

This is well illustrated by an explosion and fire that occurred in a large steel plant. From evidence obtained at an investigation it was well established that the man tending the furnace of the drier for some reason built up an abnormally large fire so that the coal in the drier ignited. The flame then passed into the pulverizer, where it came into contact with fine coal dust, with the result that an explosion followed, filling the entire building, killing two men and badly burning two others.

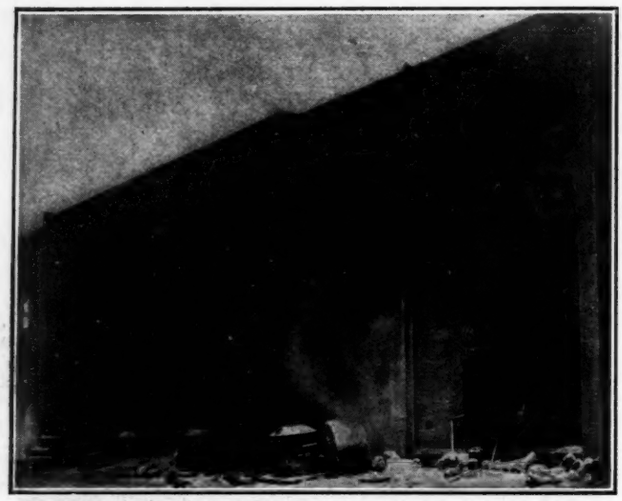
CLOUD OF COAL DUST IGNITED IN OPEN AIR

Coal dust needs no confining, the detonation of a shot or the violent effect of an electric arc to set it on fire. If the dust is fine and well mixed with air a flame will immediately cause it to ignite. Here the dust was blown from a funnel by compressed air.

One precaution that can be taken to prevent fires in buildings where powdered coal is used is to insist upon absolute cleanliness in the pulverizing plant. Accumulations of dust must not be allowed. One principle that should never be forgotton is that when cleaning up such a plant coal dust should never be swept up with a broom nor should accumulations be dislodged from window ledges, girders, boiler housings or platforms by blowing with compressed air, unless they have first been thoroughly wet down or mixed with incombustible dust in the proportion of seven parts of rock or shale to one of coal. Some plants that I have visited are kept almost spotless by means of a vacuum system.

Another safeguard is to isolate the drier from the rest of the pulverizing plant. If the former is not placed in a separate building it should at least be separated from the coal-consuming equipment by a blank masonry wall.

If a building the inside of which is covered with coal dust once starts burning the fire will spread with far greater rapidity than in a similar building that is clean. In fighting a fire of this nature care should be taken to avoid a sudden explosion or backfire from pulverized coal, possibly stored in a bin, but suddenly raised into a cloud by a sudden air draft or by falling material.



EFFECT OF A COAL-DUST EXPLOSION AT A STEEL MILL

This plant was destroyed by an explosion due to an abnormal fire being lighted in the coal drier. The flame passed into the pulverizer, where it came in contact with coal dust. Two men were killed and two badly burned.

All driers should be equipped with recording pyrometers that make a continuous record of the temperature at which the drier is operated. Preferably this chart should be placed in the office of some responsible official. Thermocouples—that part of the pyrometer affected by the change in temperature—should be installed at the discharge end of the drier.

One of the greatest causes of fire in a drier room is the continued passage of hot gases from the furnace through the drier shell when the machine is not in operation or when the shell is not revolving and there is not a constant stream of coal passing through it. Under such circumstances a certain amount of coal may quite possibly be lying in the drier shell, which, through continued contact with the hot gases, may in time become ignited. When the drier is again put in operation this hot coal will either be delivered to the pulverizer or to the dried-coal storage bin. If it goes to the pulverizer it is likely to ignite and explode the fine dust therein; if to the dried-coal storage bin, it may possibly start a fire. Such fires usually are, and wrongly, charged to spontaneous combustion. On the other hand, through continued application of heat from the furnace, gas may be generated from the coal within the drier. This may collect in the shell and explode, with disastrous results, if brought into contact with an open flame.

Though regulation of the coal-drying equipment is largely a matter for the operating official, yet an enactment by the proper authorities requiring all driers to be equipped with bypasses, in order to prevent the gases of combustion from entering the shell when these machines are not in operation, would be of great value.

Next to the drier one of the most prolific sources of trouble is the large main which circulates the mixture of air and coal dust around the plant, returning the unused coal to the storage bin. Pulverized coal is driven through this line by air currents induced by a fan and having a pressure of about 8 or 9 oz. per square inch. Fires in this line are often of a smoldering nature but they may heat the pipe red hot. In coping with such a fire little can be done save cutting out the hot section.

In any event the blowing fan should be stopped. The most important precaution of all, however, is that the entire line be inspected to see that it is absolutely free from sparks, glowing particles or smoldering coal before the fan is again started. Otherwise there may be just enough dust lying in the bottom of the pipe line to make an explosive mixture when it is raised into a cloud by the starting of the fan. Such a mixture will cause trouble if brought into contact with any glowing particles. For this reason after a fire in a coal-circulating line the entire piping system should be thoroughly inspected before the fan is started.

At a manufacturing plant which had a large number of small furnaces drawing fuel from such a line, the main fan suddenly broke down and stopped running. The sudden cessation of pressure evidently permitted a back draft and drew hot particles of coal into the pipe line. Here they continued to smolder until several hours later when the fan was again put in operation. The air current thus started stirred up the dust which had settled to the bottom of the pipe and simultaneously fanned the smoldering coal into flame. The result was an explosion which travelled throughout the entire length of the pipe line and ended by blowing into pieces the cast-iron housing of the fan, one man being killed and two others burned. It is perhaps needless to say that all pipe lines carrying pulverized coal should be of metal.

In a pulverized-coal plant all elevator systems and all screw conveyors should be dust-tight. This type of apparatus offends more, probably, than any other in the matter of throwing off fine dust. For a while this dust will remain in suspension, but it finally settles on some convenient flat surface. It is an easy matter to permit the joints to become loose and the cover to be jarred off.

Coal elevators should be adequately vented to the outside air. One point should be closely watched, however, in all outside vents connecting with passages wherein pulverized coal is carried and that is that the dust be not discharged in the open air in such manner or at such points that it may be drawn into the doors or windows or settle on the roof of some other building.

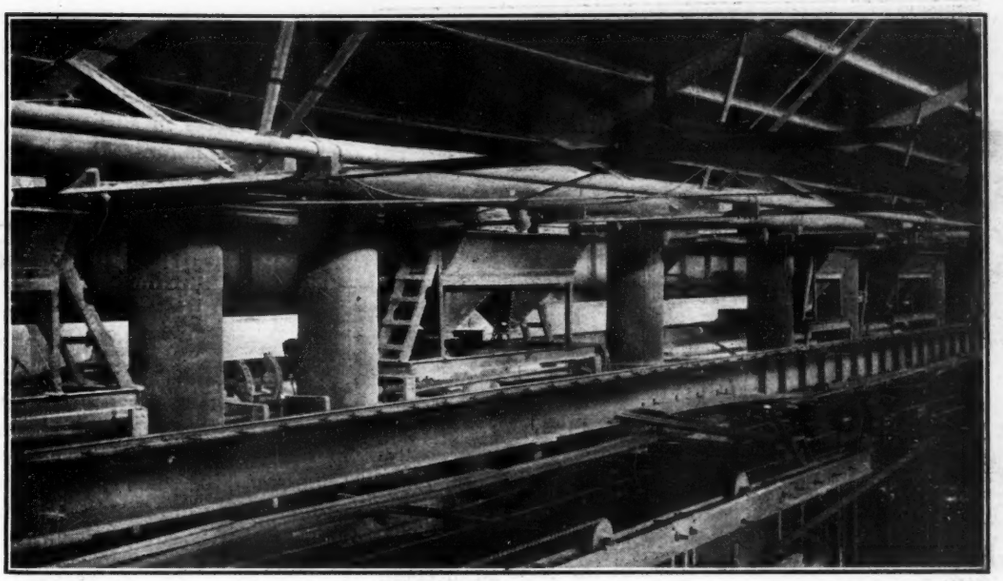
Fires in storage bins have been another source of trouble to users of pulverized coal. Such bins are of two kinds, those which have a capacity of 15 tons of dried coal or thereabout and those that store pulverized coal. The latter hold from one to five tons each.

Need Self-Ignition Data for Powdered Coal

Spontaneous combustion almost undoubtedly plays a large part in the origin of these fires. Few reliable data are available concerning spontaneous combustion under the conditions found in pulverized-coal plants. We do not have, for instance, information relating to the quantity of air that should be circulated through the bin or the temperature which once reached will cause the coal to heat rapidly. We know, however, a few things about the spontaneous combustion of coal under other conditions and they may possibly hold true for pulverized coal. One is that fine coal exposes a larger surface to the air than coal of the same weight but in larger sizes. Consequently, it will take up oxygen more rapidly. Burning is, of course, no more nor less than a rapid absorption of oxygen. Once coal is heated by any agency whatever to a temperature of 150 or 175 deg. F. it conserves enough of its own heat and absorbs oxygen so rapidly that the temperature of actual combustion is soon reached.

Bins Over Heating Furnace

A most convenient position but one in which the powdered coal in the bins is likely to get heated and to burn, the burning material being carried finally into the circulating system where coal is suspended in the air and free to explode. Locating the bins as shown aids spontaneous combustion.



Accounts of the following instances of spontaneous combustion are taken from the records of the Bureau for Safe Transportation of Explosives and other Dangerous Articles, which is affiliated with the American Railway Association.

Smoke was noticed coming from a box car loaded with pulverized coal in bulk. The side doors were opened for ventilation. At first actual fire could not be detected, but the entire load was hot and smoke was rising from the surface of the coal. Three hours later the fire was seen coming to the surface. Efforts were made to transfer the contents of the car, but the dust and gas ignited where the men were shoveling. Finally the car was brought to a fire hydrant and a stream of water was used on the dust from time to time. It was eventually necessary to wash the entire load out of the car with a stream of water.

Another case was that of a shipment of pulverized coal in bags. When the doors of the car were opened smoke poured out in great volume. Several bags of the pulverized fuel which had ignited spontaneously were unloaded from the car and the fire extinguished.

An official of a large steel company in the Youngstown district stated that trouble had been experienced from fire in its pulverized-coal bins. There was no way, so far as he knew, in which burning coal could be transported to and deposited in the bins. These bins were close to the heating furnaces and thus absorbed much radiant heat. However as they were not large they probably were supposed to be emptied every 24 hours.

It is a well-known fact that for some reason pulverized coal will stick to the sides of a bin and in time become so caked that it is necessary to jar the bin or use bars to loosen it. In such cases the coal fed to the furnace comes entirely from the center of the bin.

It also is a well-established fact that pulverized or even slack coal stored in close proximity to a furnace, a steam line or a stack for exhaust gases will heat up much more quickly than it would otherwise. As the bins mentioned often caked and were close to the heating furnaces it is reasonable to assume that the coal clinging to the side walls was heated by radiation from the furnaces and in time reached a temperature high enough to cause combustion.

It is well, therefore, to locate all storage and other bins containing pulverized coal as far away from furnaces, open lights and flames as operating requirements will allow. The bins should be so located that no radiation from furnaces, boilers, steam pipes, flues or other heating appliances can materially raise the temperature of their contents. When practicable, bins used in connection with various furnaces should be placed outside the main building. Where this is not practicable they should be separated from the furnace by a noncombustible partition.

Where a bin contains any large quantity of burning coal care must be taken to guard against one important danger when making efforts to extinguish the fire. If a stream of water is poured on red-hot coal carbon monoxide is likely to be generated, and should the bin be located within a confined space men are quite likely to be overcome, for carbon monoxide is the most poisonous gas of all those ordinarily encountered. A fraction of 1 per cent is deadly when breathed. If a strong stream of water is played on a pile of powdered coal within a bin a cloud of dust may be raised, and when it comes in contact with a flame it may ignite, with serious consequences.

Probably the quickest, safest and most economical way to cope with a bin fire is to remove all the coal as soon as possible and let it lie in a pile outdoors until the fire is entirely extinguished.

When fires occur in driers their extinguishment requires considerable judgment. If the fire has not attained much headway it may be put out with water. If it is fierce and the drier shell has become red hot, however, it would hardly be well to introduce water. While I have no personal knowledge I understand that live steam is a highly effective and safe means for extinguishing a fire of this kind.

All electric wires and cables in a plant using pulverized coal should, as far as possible, be carried in conduits. All switches, as far as can be arranged, should be placed on the outside of any building in which coal dust is likely to accumulate, and where they cannot be so located they should be of the oil-immersed type. The necessity for this precaution is shown in the incident mentioned above wherein a switch was short-circuited by dust and a switchboard panel was burned out.

BINS ON OUTSIDE OF MAIN BUILDING AWAY FROM HEAT

This location is well chosen and is one where the coal would be kept at the temperature of the outside air except for its own heating quality and its original heat. It is a far safer position for the pulverized coal than that in the previous illustration.

Motors that are likely to spark are a potential source of danger. Perhaps the best illustration of this peril is the explosion which occurred at the New Brancepeth colliery, in England. The pulverizer was driven by a 25-hp. 500-volt direct-current motor, which was inclosed but not explosion-proof. It stood on a platform about 6 ft. from the floor. A short-circuit of one of the armature coils caused severe sparking, whereby the coal dust inside the motor casing was ignited. This caused an explosion of sufficient force to blow off the sheet-iron hood that covered the commutator end of the motor. The flame thus produced ignited the fine dust held in suspension within the building, the resulting flames extending 6 ft. outside the open door and for a height of 15 ft.

The U. S. Bureau of Mines and prominent English authorities have made extensive tests in order to determine whether a cloud of dust can be ignited by an electric arc or spark. For instance, when an arc was formed with a direct current of 100 volts and 100 amp. ignition was obtained in twenty cases out of sixty-two. With a direct current of 240 volts and 27 amp. ignition was obtained nineteen times in twenty-three trials. A motor of 5 hp. on a 220-volt circuit ignited a dust cloud once in every ten trials, and a 10-hp. motor on the same voltage ignited a dust cloud almost every time. Consequently motors of the non-sparking type, preferably squirrel-cage machines, are the nearest to being explosion-proof now available. All machinery should be thoroughly grounded to prevent sparks arising from static electricity.

Whenever inspections for fire hazards are made around any kind of plant where there is a prevalence of dust, whether it be of coal, grain, aluminum, or in fact dust of any kind, the electrical equipment should be carefully examined and especially any device that may spark, such as motors, exposed switches and electric wiring.

When portable incandescent lamps are used to illuminate any place in which there is liability of a pulverized-coal cloud forming the bulb should be protected with a wire guard. It is, however, dangerous to use these portable lights around dusty bins because the dust may be ignited by sparks from possible defective connections and short-circuits. Ordinary hand flashlights are handier and safer.

In closing I would like to emphasize the following considerations: A cloud of coal dust and air mixed in the proper proportions is as dangerous as a cloud of unconfined natural gas and air; a fire in a structure covered with coal dust, even though the dust has been partly consumed, will be difficult to fight, because if this dust once gets in suspension in the vicinity of flames an explosion is quite likely to occur. Such an explosion has no mercy on anyone who may be fighting the fire in the vicinity.

Supplementing Locally-Generated Current With Central-Station Power

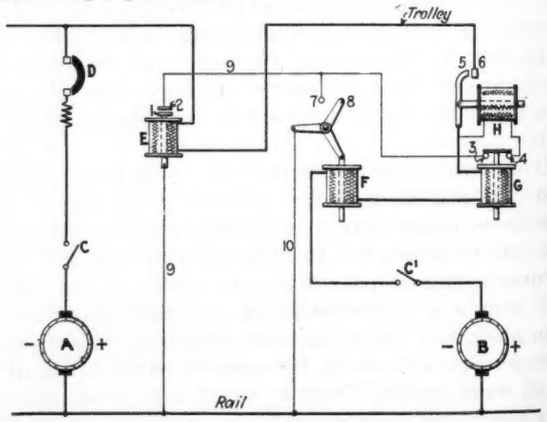
By M. E. Benedict*

AN INGENIOUS method whereby locally generated power may be supplemented with central-station current has been devised and patented by H. A. Scott, of Saltsburg, Pa., chief electrician of the Kiskiminetas Coal Co. This scheme has been in successful operation at one of the mines of that company for several years.

The plant is equipped with a steam-driven generator of sufficient capacity to carry the average mine load but inadequate to handle the frequent peaks incident to mine operation. It was necessary therefore either to buy another steam-driven unit or to purchase power, which in this case was readily available. The latter course was decided on and a motor-generator set was installed in the mine as near the load center as possible, power being taken underground through a borehole. Under these conditions the motor-generator set would naturally handle most of the load, and as it was desired to hold the amount of purchased power to a minimum Mr. Scott worked out his device. The plan evolved has resulted in only about 10 per cent of the energy used being purchased from the public-service corporation.

The accompanying illustration makes clear the manner in which the device is operated. The generator *A* is steam-driven and is located near the drift mouth. It is equipped with the switch *C* and circuit breaker *D*. Generator *B* is the motor-generator set within the mine. The feeder from generator *A* contains the solenoid *E*, which, when the current output of this machine reaches a predetermined quantity, closes the contacts 1 and 2, thus establishing a shunt circuit from generator *B* through the solenoids *F*, *G* and *H*, through the contacts 3 and 4 and 1 and 2, this circuit being marked 9. The

*Consulting engineer, Johnstown, Pa.



TAKES CARE OF PEAK LOADS WITH STATION CURRENT

Generator *A* is steam-driven and located at the drift mouth. Generator *B* is a motor-generator set within the mine. Solenoid *E* establishes a shunt circuit, with generator *A* supplying current from generator *B* whenever the current output of generator *A* reaches a predetermined quantity.

current traversing the solenoid *H* closes contacts 5 and 6, whereupon generator *B* feeds into the trolley through the coils *F* and *G*. Current passing through the coil *F* by actuating its plunger closes contacts 7 and 8, which gives another path for the return of the shunt circuit 9. This is necessary, as contacts 1 and 2 will open as soon as the generator *B* relieves generator *A* of part of its load.

The plunger in the coil *F* is set to open by gravity when current in that coil reaches any fixed minimum, this current value being adjustable. All the load is then restored to the generator *A*. The function of the solenoid *G* is to act as an overload breaker. When the load on the generator *B* exceeds a safe value this plunger will rise, opening contacts 3 and 4. Circuit 9 thus will be opened and generator *B* will be out of service until the plunger of the solenoid *G* returns to its low position.

When Mines Are Moistened by Steam It May Be Necessary to Do It Split by Split

BY F. C. CORNET*
New York City

THOUGH a dusty coal mine may be sprinkled by a water car or pipe line so thoroughly that the danger resulting from the presence of coal dust is greatly reduced, the process does not begin to compare, so far as effectiveness and low cost are concerned, with the method that uses the ventilating current as a carrier and distributor of humidity.

For the latter process to be possible the air entering the mine must possess a temperature higher than that of the workings and be so humid that it will reach a condition of saturation before the moment when the temperature of the ventilating current is reduced to that of the workings traversed. Thus a certain amount of moisture will precipitate and settle, as would dew, on the floor, roof, ribs and timbers, moistening every square inch of exposed surface and rendering harmless all dust deposited thereon.

Furthermore, this method of humidification has this further advantage that when the moisture precipitates and settles it carries with it the invisible dust that is in suspension in the air, the moisture so long as it remained in the state of vapor having traveled in intimate contact with the dust.

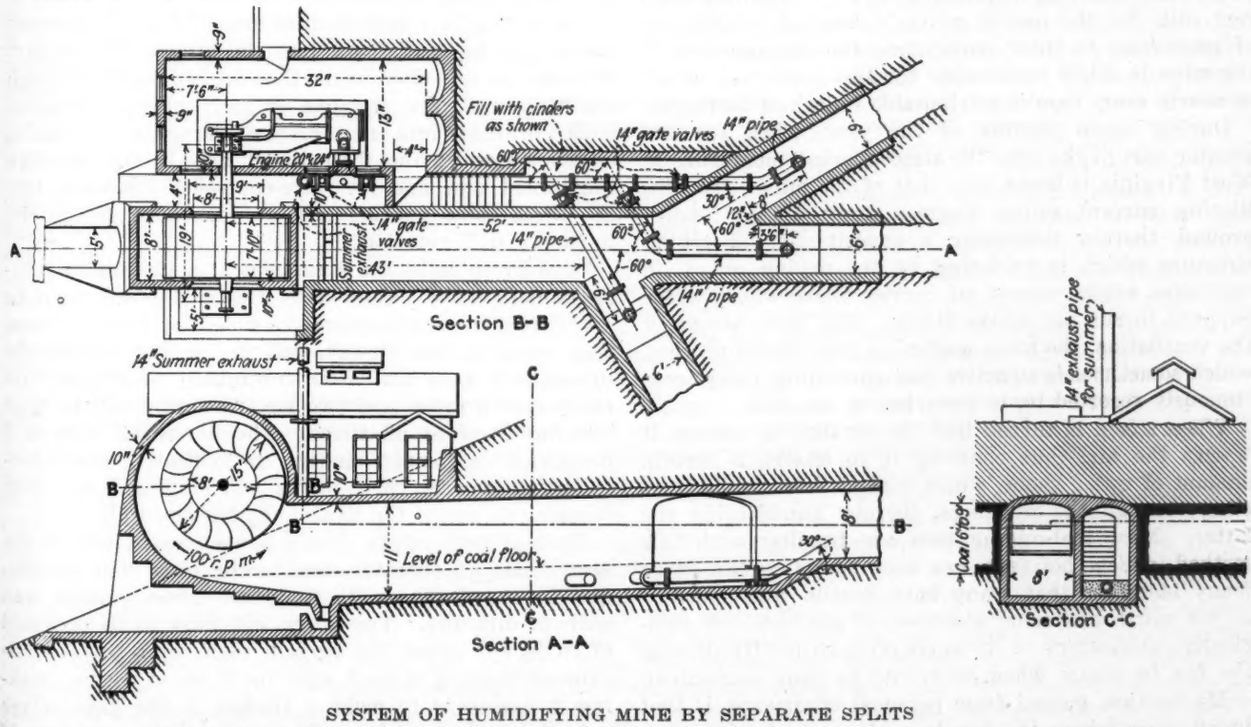
The instant that the lowering temperature causes the ventilating current to become saturated, precipitation commences and continues until the temperature of the mine has been reached, after which all water vapor left in the traveling air remains in it and returns with it to the outside.

During the greater part of the summer season the ventilating current is at a temperature sufficiently above that of our mines and contains enough moisture to insure a deposition of humidity abundant and prolonged enough to render harmless the dust present in all places traversed by the air current.

In mines abundantly and efficiently ventilated it is a matter of common observation in summer that the traveling air begins to shed humidity on entering the mine and continues to do so to the end of its underground progress. This is of great importance, for whether the ventilation be blowing or exhausting, it results in the humidification of not only the aircourses and workings proper but also of the haulage roads, which generally are dusty, often more so than the rooms themselves, a condition due to the action of the wheels on the coal falling from the cars.

What happened fifteen years ago at Monongah, W. Va., when a trolley wire fell on the track a short distance from the mine mouth and thereby caused a disastrous dust explosion, demonstrated that when measures are devised to humidify a dusty mine the

*Consulting engineer.



SYSTEM OF HUMIDIFYING MINE BY SEPARATE SPLITS

Air must be so completely heated and so adequately humidified that when it is about to leave the mine it will still be prepared to deposit moisture when passing over surfaces of the temperature of the workings. Otherwise it will leave its work only partly done. To give the air in any one split more heat and more steam it is given all that is available, but for a short time only, and each split has its turn.

haulage roads, beginning at the first set of timbers, should not be forgotten.

The conditions of temperature and moisture under which the ventilating current is able to deposit humidity from the beginning to the end of its underground travel, through the twenty-four hours of the day, are met only during the hottest and most humid weeks of summer. There may be summer days when the atmospheric temperature is abnormally low and the ventilating current, being initially little warmer than the underground workings, deposits all the humidity it is capable of yielding before it completes its passage through the mine. But any deficiency thus caused in the humidification process is sure to be made up in a day or two, when the outside air again becomes warm.

When a mine fails in summer to be thoroughly humidified it will generally be found that the ventilating air volume is either too small or unwisely distributed. The latter occurrence is much more frequent than the former, for if the total volume of air entering a mine is, in general, amply large to satisfy all necessary humidification requirements, it is seldom rightly apportioned. Some of the separate currents into which it is subdivided are sometimes of such small volume and travel so slowly that they reach the temperature of the mine at an early stage of their travel, thus ceasing to spread moisture before reaching the places most in need of humidification.

Some Splits Take Too Much of the Moisture

Conversely, the volume of other splits may be so large that they spread moisture in needless profusion along their whole route, their temperature even on returning to the outside being often found to be higher than that of the workings they have superabundantly ventilated and humidified.

The remedy for these different conditions suggests itself. If the situation of certain workings is sometimes so dry that their humidification by the ventilating current calls for the use of an air volume seemingly out of proportion to their importance, the management of the mine is solely responsible for this condition, which in nearly every case is attributable to lack of foresight.

During seven months of the year, when for the greater part of the time the atmospheric temperature in West Virginia is lower than that of the mines, the ventilating current grows warmer as it travels underground, thereby developing a capacity for absorbing moisture which is evidenced by the drying up of all ventilated places, except, of course, those where water happens to run out of the strata. The more abundant the ventilation, the more marked is this drying process, which sometimes is so active that sprinkling, unless continuously resorted to, is powerless to check it.

When steam is turned into the ventilating current it warms the air, thus enabling it to absorb a certain amount of water vapor, which it sheds later while traveling through the workings, thereby humidifying the latter. Most coal-mining men are familiar with this method, which, however, has been found to fail in so many instances that many have hastily condemned it as not worth bothering about or, at any rate, not sufficiently satisfactory in its application to justify driving the fan by steam when electricity is more convenient.

My opinion, gained from personal experience, is that in all cases where the fan is a blower, exhaust steam turned into the ventilating current will do all that the advocates of the idea claim for it, provided the volume of air thus treated is not out of proportion to the weight and temperature of the steam exhausted by the fan engine.

When the volume of the ventilating current is too large to be humidified as a whole by the exhaust steam, it must be treated in detail, being to that end split into two or more parts, the largest of which must not overtax the heating and humidifying capacity of the steam furnished by the exhaust of the engine. The splitting must be done close enough to the fan to permit the full amount of exhaust steam to be discharged in a controllable and practical way into each split separately, heating and humidifying each in turn.

The full exhaust may thus be turned into each split at regularly recurring intervals, thereby raising its temperature sufficiently and imparting to it enough moisture to develop in it a humidifying capacity that will endure throughout the time it takes the air in each split to run through the workings assigned to it.

Gate Valves Place Heat Where Desired

How the ventilating current may be thus humidified in detail is shown in the accompanying drawing. The fan and engine appearing here are of old types; the wooden housings, having outlived their usefulness, will soon be replaced by a concrete covering of a design calculated, as may be seen, to make the plant fairly efficient. The main air current will be subdivided, as shown, into three splits within a distance of 20 yd. from the center of the fan. Two gate valves, placed near and under the engine in a double system of exhaust piping, will permit the management to direct the exhaust steam at will either into a vertical pipe leading into the atmosphere or into a horizontal pipe laid in a so-called pipe tunnel parallel with the main airway and separated from the latter by a concrete wall through which pass three branch pipes, each controlled by a gate valve and each leading into a separate split, an arrangement designed to permit the separate warming and humidifying of each split in turn.

The system is a most flexible one. All of the exhaust steam may be sent direct into the atmosphere or part of it may be sent there while the rest is directed through the horizontal pipe and one or more of its valve-controlled branches into one or more of the splits. Or again, all the steam leaving the cylinder may be sent through the tunnel pipe and its valve-controlled branches into the three splits concurrently or each split separately, in turn and in rotation.

In order to make the arrangement a success the tunnel is made easily accessible by a good stairway running down from the engine room. A hole 3 or 4 in. in diameter, made in the airway wall at the far end of the tunnel, will keep the latter continually ventilated and fairly comfortable, and two electric lights will be kept burning there at all times. The horizontal pipe will be buried in tamped cinders, as indicated, the valve-operating wheels, their stems and stuffing boxes only standing up out of the leveled and hardened fill.

Even if both lights should happen to be out at the same time, an operator used to the place will be able, despite the darkness, to find the valves rapidly and without difficulty. The latter will have to be operated often in any event, the present plan being to keep the exhaust blowing in each split for 8 hr. at a time, making it necessary to make a change in the gate valves only three times a day. The probabilities are that if the 8-hr. period is departed from it will be made longer, not shorter, thus increasing proportionately the intervals between valve changes.

Problems of Operating Men

Edited by James T. Beard

Responsibilities in Firebossing

Importance of the Work—Other Duties Than Inspecting for Gas—Fireboss in a Large Mine Has No Time for Tracklaying and Timbering—Unusual for a Fireboss to Wink at Unsafe Conditions

FROM some of the letters that have appeared in *Coal Age*, regarding the work and duties of firebosses, it would seem that many of these officials, following their morning inspection of the mine, are put to other tasks than their own particular work.

During the past twenty-seven years, I have filled all the positions inside the mine, from trapper boy to mine superintendent. Practically, all of this time has been spent in gaseous mines employing firebosses or "gas watchmen," as they were called at times.

Except in a small mine or one that had just been opened where the duties of the fireboss did not occupy his whole time, I have never known a man acting in that capacity to be taken from his own particular work and asked to lay track or timber roadways.

Having been employed as fireboss, myself, it has always been my custom to consider the work one of the most important jobs that fall to the lot of underground workers. Its relation to the safety of life and property makes it such. My experience is that there are many duties of a fireboss other than inspecting for gas.

When a fireboss gives the attention he should to the ventilation of the working places, seeing that crosscuts are made at regular distances apart and brattices and stoppings properly built, he has little time for anything else. This is particularly true where the mine has been developed to the extent that there are abandoned workings to be looked after and kept in safe condition and doors, air bridges and other appliances to be examined daily.

Much Depends on the Fireboss

Capable firebosses are valuable men, in a gassy mine, and should be treated as such. Where they are able to work in harmony with the other mine officials and have their confidence and respect, it will generally be found that conditions in the mine are improved. I have known cases where firebosses were afraid to give orders to the men in their charge, because of the union; but such instances are comparatively few.

In my opinion, the fireboss, in a gassy mine, is of all officials the one on which the mining company must most depend. His responsibility is great and requires him to be a man of sober, industrious habits. His character and reputation for honesty must be beyond reproach.

Reference has been made, by writers, to the question of whether the fireboss should be made responsible to the state or to the company. For my part, I cannot see any material difference between the two cases, if the man is honest and conscientious in the performance of his duties. He must comply with the requirements of the mining law and act without fear or favor, whoever employs him.

It is contrary to my belief to think that any company or corporation would want their firebosses to slight their duties; because there is too much at stake in both life and property. It may happen that a mine superintendent, or a foreman, will expect his fireboss to wink at some conditions that he knows entail some risk; but such instances are the exception and not the rule. The fireboss who will consent to do contrary to what his judgment tells him is safe is unworthy of respect, whether he acts according to his own will or under pressure from a superior officer.

Cumberland, Wyo. WYOMING.

Improvement Needed in Shotfiring

Progress slow in methods of blasting coal—Advantage gained by employment of special crew for that purpose—Large proportion of miners shoot their own coal.

WHEN one considers how prone a large number of coal operators are to continue old methods and practices, in the operation of their mine, it would seem that the coal-mining industry in this country is very much like a big overgrown baby, asleep and not mindful of what is going on around it.

This remark is suggested by the reading of an excellent editorial that appeared in *Coal Age*, May 25, p. 870. The article is entitled "Power Drilling"; but, in addition to drawing attention to the use of electric drills or jackhammers, by a few miners who have thrown aside their old hand-drills and adopted these new devices for drilling their holes and cutting hitches or footholds for timbers, the writer alludes to the need of similar improvement being made in the work of shotfiring as now performed in mines.

This is one phase of coal mining that has not been given the attention it should have received. The reason is hard to understand, inasmuch as most mining men willingly admit that the present system of shotfiring entails great risk and is expensive for both the operator and the miner. It is not too much to say that coal operators would be surprised if they could see the amount of coal that is shot to pieces and lost, if miners fire their own shots.

Thoughtful men familiar with coal mining will readily allow that there is room for improvement in this matter. The entire work of drilling, charging and tamping the holes and firing the shots should be in the hands of men whose knowledge and judgment will yield better results.

Special Crew Given the Entire Charge of Blasting

My plan would be to employ a special crew, call them "shotfirers," if you will; but charge them with the whole duty of blasting down the coal, leaving to the present day miner only the work of loading the coal into the cars ready to be hauled out of the mine. Instead of miners, these men would then be called "loaders."

There are advantages, in this arrangement, that should appeal to every coal-mining official. Not only would this dangerous work be more directly in the control of the mine superintendent or foreman, because of having fewer men to instruct in regard to the proper methods of blasting and the use of explosives; but there would be fewer accidents and a larger amount of marketable coal would be produced than by the old method.

In the Interest of Safety

As a means of safety, some companies have employed shotfirers to shoot the holes, which are drilled and charged by the miners. Other companies have gone a step farther and employed "face bosses" to see that the holes are properly placed and charged with the right amount of powder. While this is a step in the right direction, it only touches the margin of the real problem.

It is my belief that an investigation would show that 95 per cent of our bituminous coal is blasted by miners, who use varying degrees of knowledge, experience and judgment in performing the work. The results can readily be imagined and no sane person will deny that there is an inestimable amount of coal lost and lives sacrificed by reason of this condition.

In closing, I want to refer, incidentally, to the benefit to be derived by the miner or loader, as we must now call him, by reason of the fact that he is relieved from the burden of having and maintaining his own drill and pick. Moreover, he is not charged with the expense of powder, nor has he the same responsibility for keeping his place timbered and safe. OSTEL BULLOCK.

Central City, Ky.

Limitation of Certificates

Coal mining, past and present — Need of mine officials keeping themselves up-to-date—Limiting the life of the certificate a means to that end.

COMPARING the mining of coal, only thirty-five years ago, with present-day methods and equipment is like drawing a comparison between the old-fashioned stagecoach and the automobile. We find nothing to justify the comparison. So it is in the mining of coal. Old methods and practices have given place to improved mechanical appliances that have enabled the coal-mining industry to outstrip itself.

In the mind of every practical mining man, there can be no doubt as to the need of mine officials keeping themselves up-to-date, in respect to these new methods and appliances that await their adoption in the mining of coal.

LIMITING LIFE OF THE CERTIFICATE GIVES INCENTIVE TO STUDY

Taking these facts into consideration, I believe it is needful that some means be undertaken that will act as an incentive to mine foremen, mine superintendents and managers to inform themselves and become familiar with all improved means and methods constantly being placed at their disposal.

Speaking of the certification of mine officials, including mine superintendents as well as foremen, assistant foremen and firebosses, while most writers have classed this as important, a few have assumed to think that the certificate is unnecessary in the outfit of a practical mine foreman or other official.

For my part, I consider the certification of mine officials as most important. Indeed, I agree heartily with the suggestion made by some *Coal-Age* writers that the life of a certificate be limited, for the simple reason that, unless this is done, there is provided no incentive that will keep men studying, other than their own personal ambitions.

It is with regret that we are compelled to acknowledge the lack of such ambition, in a large number of mining men holding official positions. How often has it been stated, in *Coal Age*, that when a man has once secured his certificate, in the majority of cases, he ceases to study, read and keep himself informed in regard to new methods and appliances relating to mining.

While I cannot feel that it would be reasonable to compel certified men to go through all that they were required to pass through in order to secure their first certificate, I do feel that every holder of a certificate should be obliged, at certain set periods, to go before a board and take an examination that would prove that he had kept pace with progress, by reading and studying, and is capable and up-to-date on all matters pertaining to the mining of coal, in his present official capacity.

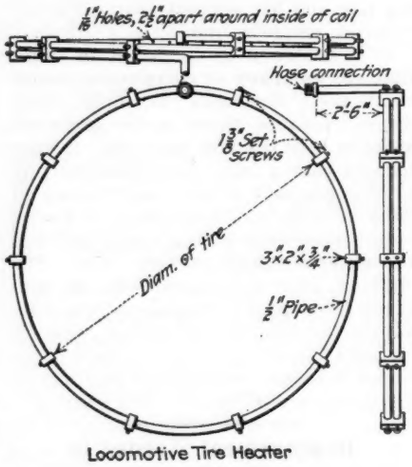
To my mind, this is the surest way of keeping men in touch with the present stage of mining, both in respect to safety and economy. I would not have the old certificate withdrawn, but endorsed by an examining board, from time to time, at such fixed periods as would seem best. I hope to learn the thoughts of others along this line.

Mayport, Pa. JAMES THOMPSON.

Re-tiring Mine Locomotives

Coil of pipes surrounding wheel operated as a blower, using coal oil or gasoline and compressed air.

NOT long ago, I remember, an inquirer asked for a good practical method of removing worn tires from the wheels of a mine locomotive (*Coal Age*, Apr. 20, p. 660). It occurred to me that a rig we have used for that



Locomotive Tire Heater

purpose would be of interest to him and others.

We designed the apparatus for our own use, after reading a description of such a device in the *Railway Mechanical Engineer*, Jan., 1920, p. 36. We have used this apparatus now for some time and it has proved highly satisfactory.

In the accompanying figure, is shown a diagram illustrating the construction of the device, which I would call a coal-oil locomotive tire heater. Briefly described, the apparatus consists of a coil of 1 in. pipe, passing twice around the wheel from which the tire is to be removed.

The inside diameter of the coil is made slightly larger than the diameter of the wheel. We are using a 10-gal. Haupt heater coil-oil tank, having a hose connection with the coil of pipe. Compressed air at about 70 to 80 lb. pressure is used to force the oil through the coil of pipe.

As indicated in the figure, 1/16-in. holes are drilled 2½ in. apart around the inside of the coil, starting at a point about 2 ft. from where the oil enters the coil. I believe the apparatus would work successfully, however, with a less air pressure than what we are using.

As stated previously, the use of this device has given complete satisfaction, both in removing wornout tires and applying new ones; and if carefully handled the operation is not dangerous. However, I would suggest keeping it well away from a low roof in the mine when used underground.

J. CAMPBELL, Supt.,
The Lehigh Valley Coal Co.
Drifton, Pa.

Working Contiguous Coal Seams on Moderate Pitches

Main slope driven on the full dip—Use of machines determines direction of driving rooms—Examples of successful workings.

AN INTERESTING question relating to the working of two contiguous seams of coal, lying on a moderate pitch, was answered in *Coal Age*, Apr. 27, p. 702. This is a matter in which I have always been deeply interested and anxious to obtain all the information possible from the experience of others.

In the question to which I have referred, a 15-ft. seam of coal having a hard floor was overlaid with a 7-ft. parting of shale, which was again overlaid with a 4-ft. seam of coal having a fireclay roof. The two seams had an inclination of 23 deg.

SLOPES DRIVEN THREE ABREAST PROVIDE GOOD VENTILATION

As stated in the reply to the question, the method of attack should be to drive the main slope on the floor of the thicker and lower seam. Owing to the large amount of narrow-work, the driving of these slopes three abreast will be expensive, but will doubtless pay in the end. The middle slope can be used as the main intake and haulage road, and the two side slopes as return air-courses for their respective sides of the mine.

The reply to this inquiry assumes that the seams outcrop on the property, and it is stated that the average depth of cover is 700 ft., which would suggest extra care and caution being taken in the working out of the coal. It is questionable whether the shale top of the big seam will make a good roof in working that coal. Therefore, I would suggest leaving, say 2 ft. of topcoal up, in the first working, which will leave 12 ft. of coal to be taken out in two benches.

FIRECLAY ROOF TREACHEROUS

In regard to the upper seam, which is only 4 ft. thick and overlaid with a bed of fireclay, it is my opinion that it will probably be better not to mine this coal at all. The fireclay wou'd make a very treacherous roof, particularly if the strata are wet. However, if the roof can be managed and this seam is worked the coal should be taken

out through a tunnel and hoisted on the main slope in the thicker seam.

Now comes the question as to whether the mine is to supply steam coal or coal for coking. In the latter case, a large percentage of lump coal will not be required, as the product will need to be crushed in either case. On the other hand, if the mine is to supply coal for domestic purposes every effort must be made to obtain as large a percentage of lump as possible. In that case, it will be generally agreed that machine mining should be adopted in preference to pick mining; and just here is the parting of the ways.

It is evident that the answer given to this question contemplates pick mining, since it states that the coal is worked out to the rise of the levels or gangways. Driving the rooms to the rise would eliminate the use of machines on a 23-deg. pitch.

Arrangements for Machines

Without reflecting on the method of pick mining, however, let us assume that this coal is to be mined with machines. In that case, arrangements must be made to drive the rooms practically on the strike of the seam, which was the plan adopted by the Owl Creek Coal Co. and described in my article, which appeared in *Coal Age*, March 16, p. 439.

In that plan, instead of driving the rooms up the pitch, butt headings are driven to the rise of the levels and rooms turned to the right and left of each pair of butts, always giving the rooms a slight inclination up the pitch so as to provide a grade in favor of the loaded cars.

As explained in that article and again referred to in my letter, June 1, p. 926, a small portable hoist is set at the head of each pair of butt headings and attends to the gathering and distribution of the cars in the rooms. The same hoist also handles the machine in passing from one room to another on those headings.

This plan is working successfully at two mines in the Gebo district, where the pitch is 23 deg., and is the only plan that has given satisfaction under these conditions. The chute-mining system, previously used in the Gebo mine, proved unsuccessful and had to be abandoned for the method just described. This mine, to my knowledge, is one of the few pitching seams using machines in mining the coal.

Denver, Colo. C. M. Schloss.

Inquiries Of General Interest

Estimating Number of Cars Needed to Operate Mine

Important to Know Height of Coal in Determining Capacity of Cars and Other Data—Length of Haul—Kind of Locomotive or System of Haulage Employed

A WHILE ago I was called on to solve a problem similar to the one asked in a recent examination and which appeared in *Coal Age*. The question required me to estimate the exact number of cars needed to operate a mine successfully under certain conditions. The answer given to the examination question in *Coal Age*, showed me the method of proceeding.

However, I want to say that in order to arrive at a reliable estimate, in a problem of this kind, it is important to know more data than are commonly given in such a question. For example, one should know the height of the coal, which will determine very largely the size and capacity of the mine cars, besides giving an idea of about the amount of coal a miner will dig in a day.

It is important to know, also, the kind of haulage locomotive employed, whether a storage-battery or a trolley locomotive, as the latter is commonly operated at a greater speed than the former. These and other data such as the length of haul, grade and condition of track materially modify the actual results in practice.

The proposition presented to me was somewhat unusual from the fact that it involved an extra long haul for the very small output desired, as I was asked to estimate on a daily output of only 100 tons, in 8 hr. The main haul was approximately three miles each way, with a 3 per cent grade in favor of the loaded cars.

My report was to state the capacity and number of cars needed, and the type and weight of locomotive required for the most economical operation of the mine. Although my information warranted me in assuming that a 500-volt, direct-current transmission is economical for a distance up to four miles, I decided that this small tonnage would not justify the expense of electrifying the mine for a trolley locomotive.

After carefully considering the problem from every angle, I decided to recommend the use of a storage-battery locomotive. By boosting the battery an hour at noon, each day, the locomotive would have a capacity that would enable it to operate successfully throughout the day.

My estimate was based on a speed of 3 mi. per hr., on the upgrade, and 6 mi. per hr., coasting on the downgrade, which I considered safe. On this basis, the three-mile trip outby, at 6 mi. per hr., would require 30 min.; and the same trip inby, at 3 mi. per hr., 60 min., making the time for the full round trip one hour and a half.

To be on the safe side, I allowed 15 min. for making up and changing trips at each end. This made the full time two hours per trip, or four trips a day. To handle a daily output of 100 tons, on this basis, would necessitate hauling 25 tons of coal per trip.

For ease of calculation, therefore, I estimated on hauling twelve 2-ton cars, or 24 tons of coal per trip. Then, assuming the men would load 8 tons of coal per man per day, there would be need for twelve loaders; and if these were working in pairs each place would produce 16 tons a day, or two tons per hour.

In the 2-hr. interval between trips, each place would then produce two cars of coal and the six working places, together, would furnish the twelve loaded cars needed for the next trip. At the lowest estimate, I concluded there should be twelve cars in transit, twelve cars on the tipple unloading and twelve cars in the mine in process of loading, making thirty-six cars in all. In addition to this number, I added an extra four cars to cover what might be laid aside for repairs, or loaded with timber or other supplies awaiting movement into the mine.

In attempting to check this estimate, however, by computing the time required for a complete cycle of one car, I figured 1 hr. loading, 2 hr. in transit and 2 hr. waiting at the tipple for the next trip, making 5 hr. in all. Each car would then average $8 \div 5 = 1\frac{3}{5}$ trips, per day, and haul $2 \times 1\frac{3}{5} = 3\frac{1}{5}$ tons of coal a day. But this would make the 36 cars haul $36 \times 3\frac{1}{5} = 115\frac{1}{5}$ tons of coal a day, which does not check with my estimate, for some reason that is not clear to me. I would appreciate being told where my error lies.

Mine Engineer.

————, Colo.

The correspondent's error lies in computing the cycle of a single car. For example, each car is held 2 hr. in the mine, although it takes but an hour to load it. Then, it is 2 hr. in transit and is held another 2 hr. on the tipple, which is the time between trips. This makes the total cycle of a single car 6 hr. Each car, therefore, averages $8 \div 6 = 1\frac{1}{3}$ trips per day and hauls $2 \times 1\frac{1}{3} = 2\frac{2}{3}$ tons of coal, per day. The 36 cars will then haul $36 \times 2\frac{2}{3} = 96$ tons of coal, per day, which was the output assumed by the correspondent instead of the required 100 tons a day.

Examination Questions Answered

Kentucky Mine Foremen's Examination, Lexington, May 30, 1922

(Selected, First-Class Questions)

QUESTION—*State what, in your judgment, are the most essential qualifications to make a successful mine foreman.*

ANSWER—He must be straightforward, honest and fair in all his dealings, never making promises he cannot keep. He must be broadminded, kind and patient, but firm, a student of human nature and a man of foresight and good judgment. He must be industrious and have a thorough technical and practical knowledge of mining, gained by study and experience.

QUESTION—*Describe the various instruments that you, as a first-class mine foreman or fireboss, would use to determine the condition of the mine atmosphere, the quantity of ventilation, the temperature, humidity and other general conditions. Explain fully how these are used.*

ANSWER—A first-class mine foreman must have and be able to use a safety lamp of approved type, understand its construction and the danger of its misuse in the examination for gas or when used for work in a gassy mine.

The mine foreman must have and use an anemometer for determining the average velocity of the air current passing in an airway. He must be able to calculate, from the observed reading of the instrument, the quantity of air in circulation. To determine the temperature and humidity of the mine air, the foreman should have and use a wet-and-dry bulb hygrometer; and be able to calculate, from its reading, the degree of humidity or percentage of moisture in the air.

The foreman should have and use a water gage to determine the pressure producing circulation in the airways inby from the point where the observation is taken. He must be able to calculate, from the readings of the gage and the anemometer, the horsepower on the air. From this he should be able to estimate the efficiency of the ventilator, after ascertaining the horsepower of the engine driving the fan.

In addition to these instruments, the mine foreman should have and use a compass for setting sights, giving the desired direction of driving entries and rooms. He must have and use a tape measure for measuring distances and finding the size of airways and breakthroughs in the mine. If the seam has much inclination, the foreman should have a clinometer for measuring the degree of the pitch. Every foreman is supposed to have a reliable watch that he carries with him at all times.

In the examination of abandoned areas or workings, the foreman should have and use a carbon-monoxide detector. For the purpose of accurately determining the percentage of gas in mine air, the foreman should have and use a gas indicator that will eliminate the evil habit of guessing the percentage of gas from the height of the flame cap. This is important, as it is seldom that any two firebosses reach the same conclusion in this respect.

QUESTION—*The figure of a section of an airway is a right-angled triangle, having the base and perpendicular equal, and the length of the hypotenuse* 15 *ft. What is the area of this figure and what will be the quantity of air passing in this airway when the velocity of the current is* 300 *ft. per min.?*

ANSWER—Since the square of the hypotenuse of a right triangle is equal to the sum of the squares of the two sides and these being equal, in this case, the square of either side is equal to one-half the square of the hypotenuse, or $\frac{1}{2} \times 15^2 = \frac{1}{2} \times 225 = 112\frac{1}{2}$. Again, the two sides being equal, the square of either side is, evidently, twice the area of the triangle. Therefore, in this case, the area of the given triangle is $\frac{1}{2} \times 112.5 = 56.25$ sq.ft.

QUESTION—(*a*) *If you were in charge of a mine, would you consider it dangerous if dry and dusty at the working face, even if gas was not present? (b) What precaution should be taken under conditions of solid shooting, in a mine of this character?*

ANSWER—(a) A dry and dusty condition, at the working face in a mine, is always dangerous whether or not gas is present; but the presence of gas greatly increases the danger from dust. Also, the danger is much greater where the coal is blasted, particularly if black powder is used for that work.

(b) The practice of solid shooting should not be permitted in a dry and dusty mine. In any event, the working places should be kept free from accumulations of dust and well sprinkled before any shots are fired therein. Only permissible powder should be used. The safest practice is to employ practical shotfirers, to examine, charge and fire all holes drilled by the miners and which, in their judgment, are safe. Each place must be examined for gas before a shot is fired.

QUESTION—(*a*) *What should be the first thing for you to observe as a fireboss, on entering a mine? What constitutes a good safety lamp (b) for general work; (c) for testing purposes?*

ANSWER—(a) On entering a mine and having regained his sight, a fireboss' first duty is to examine the condition of his lamp and know that it is burning properly, before proceeding to the main intake of the mine or section he is to examine. This does not take the place of a fireboss carefully examining and testing his lamp when assembling the same, before entering the mine. On reaching the intake his first act is to note carefully that the usual volume of air is in circulation.

(b) A good safety lamp for general work must be of a type approved by the Federal Bureau of Mines. It must give a good light and not be too sensitive to gas. It must be simple in construction, having few parts that are easily and quickly assembled. The lamp should be protected from strong air currents or a sudden rush of air, by means of a good bonnet. The air should enter the lamp from a point below the frame, in order to reduce as much as possible the tendency of the flame to smoke. Preferably, the lamp should burn a good quality of sperm or cottonseed oil, and be provided with a pricker, for cleaning the wick as may be required.

(c) A good lamp for testing purposes must have a free upward circulation of air within the lamp, which must burn a non-volatile oil and be provided with some form of indicator that will eliminate the bad habit of guessing the percentage of gas present in the air, by estimating the height of flame cap produced.

QUESTION—*Is there any difference between marsh gas and firedamp? If so, what is the difference? Explain fully.*

ANSWER—Yes. Marsh gas is the common name for undiluted methane (CH_4), while firedamp is a mixture of this or other explosive gas with air, in inflammable or explosive proportions. While the term "firedamp" is generally understood to refer to an inflammable or explosive mixture of methane and air, other gases may be and often are present in a firedamp mixture.

QUESTION—*Are there any conditions whereby a large body of pure marsh gas could be rendered more dangerous than a large body of firedamp? If so, explain why.*

ANSWER—This is not a practical question in its application to the presence of gas in mines; because a large body of pure marsh gas is liable to become, by diffusion or the admixture of air, a still larger body of firedamp. Both are equally dangerous, although some may consider a large body of pure marsh gas, accumulated in a mine, a greater menace to safety than the same volume of firedamp; because when the marsh gas is converted into a firedamp mixture by the addition of air, the volume of the mixture is greater than the volume of the original marsh gas.

Smokeless Output During May Exceeds That of April by Over 800,000 Tons

SMOKELESS coal production in the West Virginia fields increased from 2,860,961 net tons in April to 3,687,874 tons in May, as shown in the following table. The May output was 712,163 tons higher than for May last year, only the New River field showing a decrease.

MAY OUTPUT OF SMOKELESS COALS OF WEST VIRGINIA

	Net Tons			
District	1922	1921	1922 Decrease	1922 Increase
Pocahontas	2,019,185	1,322,550	.....	696,635
Winding Gulf	798,356	648,311	.....	150,045
New River	364,283	557,370	193,087	.....
Tug River	506,050	447,480	.....	58,570
Total, May	3,687,874	2,975,711	193,087	905,250
Total, April	2,860,961	1,978,153	.....	.....
Total, March	3,399,571	1,710,151	.....	.....

The N. & W. Ry. hauled 2,525,235 tons of the May output, the Virginian, 651,739 tons, and the C. & O., 510,900 tons. Total coal movement of these railroads in May is shown in the following table:

HAULED BY NORFOLK & WESTERN

Pocahontas	2,019,185	Clinch Valley	227,285
Tug River	506,050	Kenova	164,270
Thacker	637,735		
Total			3,554,525

HAULED BY CHESAPEAKE & OHIO

Logan	1,603,630	Coal River	47,210
New River	301,390	Kentucky	439,700
Winding Gulf	209,510		
Kanawha	76,140	Total	2,677,580

HAULED BY VIRGINIAN RAILWAY

Winding Gulf	588,846	High Volatile	50,066
New River	62,893		
Total			701,805

THE SITUATION, in the opinion of many in Washington, is such as to emphasize the advisability of forming an organization within the coal industry along the lines of the Construction Council recently formed in the building industry. The possibilities of a coal council have come in for serious consideration during recent weeks. The wish has been expressed that such an organization be formed and that every effort be made to induce Secretary Hoover to become its active head. While no opportunity has been afforded for any general consideration of the plan, those who have discussed it believe it would be the most direct approach to the problem of stabilizing the coal industry. Practically the identical idea has been put into effect by the construction industries and somewhat similar ends were sought by the motion-picture industry in engaging the services of Will H. Hays and by the baseball interests in putting their affairs under the direction of Judge Landis.

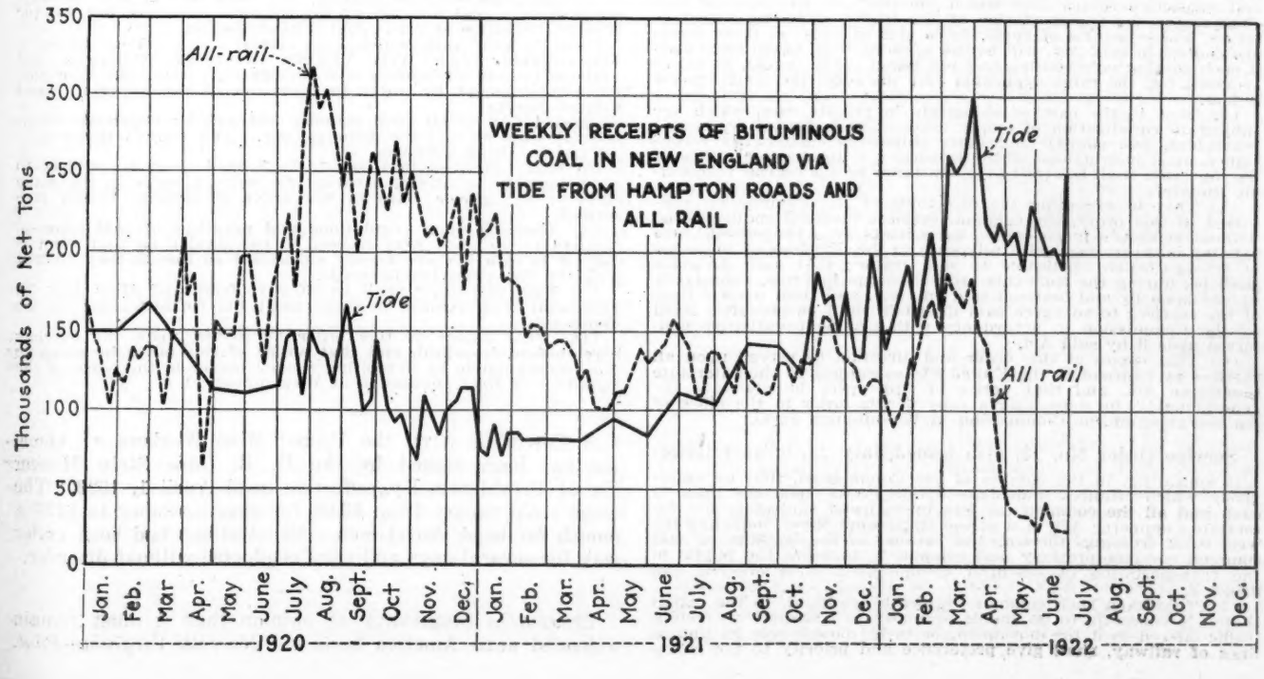
That the coal industry entertains a different feeling toward Secretary Hoover from that which it had at the time the Frelinghuysen bills were under discussion was shown by the anxiety occasioned in the industry when it was erroneously reported that Secretary Hoover had resigned. Numerous appeals reached Washington asking that he be induced to stay on the job at least until the coal situation had been straightened out.

Water-Borne Southern Coals Outdistance All-Rail Fuel in New England

SOUTHERN coals via tidewater seem to have captured the majority of the New England markets which can be served from rehandling points on the coast. All-rail coals practically dominated throughout 1920, with the exception of the period of the switchmen's strike in April, and until August, 1921, reaching the peak during the first week in August, 1920, with a movement of 320,000 net tons. From that week receipts fluctuated, but with a steady downward trend, until a year later they dropped below the tonnage of water-borne coal from Hampton Roads. Since that time the all-rail suppliers have seen more and more of their territory slip over to the sellers of Southern coals, who in one week in March of this year moved 300,000 net tons from Hampton Roads alone.

The decline of the all-rail movement was definitely started when the increase in freight rates, late in 1920, put the Southern coals in better position by reason of the softening of coastwise vessel freight rates. Reduced wages in southern West Virginia mines then furthered the competitive position of those coals. Of course, the present strike has reduced production in central Pennsylvania and affected that tonnage available for distribution in New England, but even with the resumption of mining the relative positions of these two coals will not be disturbed by the July 1 freight-rate reductions, as the greater saving on all-rail freights is partly offset by a smaller reduction—mines to tide—on Southern coal. The remainder of the freight cut differential is easily overcome through low mine costs and the plenitude of coastwise vessels, which means cheap water rates.

The diagram below, compiled from the published reports of the Geological Survey up to the end of June, compares the shipments of soft coal through the New England rail gateways with cargo shipments over piers at Hampton Roads.



Merging of Six Kentucky Coal Companies Represents Capital of $2,500,000

ONE of the biggest mergers of coal interests concluded among southeastern Kentucky coal interests was effected in Cincinnati on July 25, when the Log Mountain Coal Co., the Hignite Coal Mining Co., the Yellow Creek Coal Co., the Mingo Coal & Coke Co. and the Bennet's Fork Coal Mining Co. were consolidated. The financial part of the deal was arranged through Cincinnati, Pineville and northern Kentucky capitalists and launches a $2,500,000 company which will be known as the Log Mountain Consolidated Coal Co.

The formation of the company is the result of efforts begun in 1915 by John Hoffman, president of the Hignite company and vice president of the Kentucky Fuel Co., of Cincinnati. At that time he preached consolidation in order to cut down overhead expense and promote economy of sales. He never gave up the idea though the prospects did not seem favorable at times.

Text of Priority Orders, Issued July 25

SERVICE ORDER NO. 22, issued by the Interstate Commerce Commission Tuesday, July 25, 1922, is as follows:

The subject of routing of freight traffic being under consideration and it appearing to the Commission that an emergency exists upon the lines of all carriers by railroad in the United States subject to the Interstate Commerce Act which requires immediate action, and that each of such carriers, by reason of unfavorable labor conditions and shortage of fuel supply, is unable to transport the traffic offered it so as to properly serve the public.

Therefore, in order best to promote the service in the interest of the public and the commerce of the people, *it is ordered and directed:*

(1) That from and after July 26, 1922, and until the further order or direction of this Commission, all said common carriers by railroad are hereby directed to forward traffic to destination by the routes most available to expedite its movement and prevent congestion, without regard to the routing thereof made by shippers or by carriers from which the traffic is received, or to the ownership of the cars, and that all rules, regulations and practices of said carriers with respect to car service are hereby suspended and superseded in so far only as conflicting with the directions hereby made.

(2) That inasmuch as such disregard of routing is deemed to be due to carriers' disability, the rates applicable to traffic so forwarded by routes other than those designated by shippers, or by carriers from which the traffic is received, shall be the rates which were applicable at date of shipment over the routes so designated, unless the rates applicable over such designated routes are higher, in which event the rates applicable over the route of movement will apply.

(3) That in each instance where the traffic is routed, or rerouted, by carriers by railroad under the authority of this order, the carrier responsible for such routing or rerouting shall, within twenty-four hours thereafter, deposit in the United States mail a notice addressed to the consignee of the traffic, stating the car numbers and initials, places and dates of shipment, the routing, and respective routes over which the traffic is moving and that charges for the transportation of the traffic, including transportation, and schedules of rates, fares and charges, as those terms are defined in said Act, will be the same as they would have been if such routing or rerouting had not taken place, unless, as above provided for, the rates applicable over the route the traffic moves is less.

(4) That in the case of shipments in private cars, which are subject to equalization of empty mileage, and also of fruits and vegetables, live poultry and other shipments customarily reconsigned upon instructions of the consignor, a telegraphic notice of the diversion shall be sent to the consignor by the carrier responsible therefor.

(5) That in executing the directions of the Commission contained in this order, the common carriers involved shall proceed without reference to contracts, agreements or arrangements now existing between them with reference to the divisions of the rates of transportation applicable to said traffic; that such divisions shall be, during the time this order remains in force, voluntarily agreed upon by and between said carriers, and that, upon failure of the carriers to so agree said divisions shall be hereafter fixed by the Commission in accordance with pertinent authority conferred upon it by said Act.

(6) That copies of this order and direction be served upon all carriers by railroad in the United States subject to the Interstate Commerce Act, and that notice of this order be given to the general public by depositing a copy of the order in the office of the Secretary of the Commission in Washington, D. C.

Service Order No. 23, also issued July 25, is as follows:

It appearing, in the opinion of the Commission, that an emergency which requires immediate action exists upon the lines of each and all the common carriers by railroad subject to the Interstate Commerce Act, east of the Mississippi River, including the west bank crossings thereof, and because of the inability of said common carriers properly and completely to serve the public in the transportation of essential commodities, *it is ordered and directed:*

(1) That each such common carrier by railroad, to the extent that it is currently to be unable promptly to transport all freight traffic offered to it for movement, or to be moved over its line or lines of railway, shall give preference and priority to the movement of each of the following commodities: food for human consumption, feed for live stock, live stock, perishable products, coal, coke and fuel oil.

(2) That to the extent any such common carrier by railroad is unable under the existing interchange and car-service rules, to return cars to its connections promptly, it shall give preference and priority in the movement, exchange, interchange and return of empty cars intended to be used for the transportation of the commodities specially designated in paragraph numbered 1 hereof.

(3) That any and all such common carriers by railroad which serve coal mines, whether located upon the line or lines of any such railroad or customarily dependent upon it for car supply, herein termed coal-loading carriers, be, and they are hereby, authorized and directed whenever unable to supply all uses in full, to furnish such coal mines with open-top cars suitable for the loading and transportation of coal, in preference to any other use, supply, movement, distribution, exchange, interchange or return of such cars; *provided*, that the phrase "suitable for the loading and transportation of coal" as used in this order shall not include or embrace flat (fixed) bottom gondola cars with sides less than 36 inches in height, inside measurement, or cars equipped with racks or cars which on July 1, 1922, had been definitely retired from service for the transportation of coal and stenciled or tagged for other service.

(4) That all such common carriers by railroad other than coal-loading carriers, herein termed non-coal-loading carriers, be, and they are hereby, authorized and directed to deliver daily to a connecting coal-loading carrier or carriers, or to an intermediate non-coal-loading carrier, for delivery through the usual channels to a coal-loading carrier, or carriers, empty coal cars up to the maximum ability of each such non-coal-loading carrier to make such deliveries and of each such connecting coal-loading carrier to receive and use the coal cars so delivered for the preferential purposes herein set forth.

(5) That all such common carriers by railroad be, and they are hereby, authorized and directed to discontinue the use of cars suitable for the loading and transportation of coal for the transportation of commodities other than coal, so long as any coal mine remains to be served by it with such cars; and as to each non-coal-loading carrier, so long as deliveries of any such cars to connecting carriers may be due or remain to be performed under the terms of this order.

(6) That all such common carriers by railroad be, and they are hereby, authorized and directed to place an embargo against the receipt of coal or other freight transported in open-top cars suitable for coal loading, by any consignee, and against the placement of such open-top cars for consignment to any consignee, who shall fail or refuse to unload such coal or other freight so transported in coal cars and placed for unloading, within twenty-four hours after such placement, until all coal or other freight so transported in coal cars and so placed has been unloaded by such consignee, and shall notify the Commission of such action. This authorization and direction as to embargoes shall not interfere with the movement of coal to tidewater or the Great Lakes for transshipment to water, nor shall it apply where the failure of the consignee to unload is due directly to errors or disabilities of the railroad in delivering cars.

(7) That in the supply of cars to mines upon the lines of any coal-loading carrier, such carrier is hereby authorized and directed to place, furnish and assign such coal mines with cars suitable for the loading and transportation of coal in succession as may be required for the following classes of purposes, and in following order of classes, namely:

Class 1—For such special purposes as may from time to time be specially designated by the Commission or its agent therefor. And subject thereto:

Class 2 (a)—For fuel for railroads and other common carriers, and for bunkering ships and vessels; (b) for public utilities which directly serve the general public under a franchise therefor, with street and interurban railways, electric power and light, gas, water, and sewer works; ice plants which directly serve the public generally with ice, or supply refrigeration for human food stuffs; hospitals; (c) for the United States, state, county or municipal governments, and for their hospitals, schools and for their other public institutions—all to the end that such common carriers, public utilities, quasi public utilities and governments may be kept supplied with coal for current use for such purposes, but not for storage, exchange or sale. And subject thereto:

Class 3 (As to each coal-loading carrier which reaches mines in Pennsylvania, Ohio, West Virginia, Kentucky, Tennessee and Alabama)—For bituminous coal consigned to any Lake Erie port for transshipment by water to ports upon Lake Superior. And subject thereto:

Class 4 (As to all such common carriers by railroad)—Commercial sizes of coal for domestic use. And subject thereto:

Class 5—Other purposes.

No coal embraced in Class 1, 2, 3 or 4 shall be subject to reconsignment or diversion except for some purpose in the same class or a superior class in the order of priority herein prescribed.

(8) That all rules, regulations and practices of said common carriers by railroad with respect to car service as that term is defined in said act are hereby suspended so far as they conflict with the directions hereby made.

(9) That this order shall be effective from and after July 26, 1922, and shall remain in force until the further order of the Commission.

(10) That copies of this order be served upon the carriers hereinbefore described, and that notice of this order be given to the general public by depositing a copy hereof in the office of the Secretary of the Commission at Washington, D. C.

A CONTRACT WITH the United Mine Workers of America has been signed by the D. B. Gore Strip Mining Co. at Providence, Ky., effective until April 1, 1923. The wage sca'e ranges from $6.06 for common labor to $235 a month for head shovel men. Negotiations had been under way for several days and were conducted without disorder.

EUROPE IS SEEMINGLY of opinion that it must remain unhealed until America heels it.—*Norfolk Virginian-Pilot.*

Government Control of Coal Distribution Expected To Continue Throughout Winter

By Paul Wooton
Washington Correspondent of *Coal Age*

Washington, July 31.—Actual control of the distribution of practically all the current coal production will be effective within forty-eight hours, Secretary Hoover announced this morning. Henry B. Spencer, administrative member of the President's committee, opened temporary offices this morning in the old War Trades Board Building. Permanent offices are being prepared for the committee in the American Railroad Association Building, 718 18th Street.

Mr. Hoover stated this morning that there is no sign on the horizon to indicate an approaching settlement of the coal strike. He expressed the opinion that 8,500,000 tons weekly will keep the country fairly well supplied with coal if the distribution plan results in an equitable apportionment of the coal mined. He stated that practically all of the western Kentucky operators are now in line.

Officials in Washington are being deluged with requests for coal. These requests are being returned promptly to the governors of the states from which they came. Incidentally there is evidence that some of the governors do not relish the task which has fallen to them. While many governors are quick to resent federal activities which can be interpreted as an encroachment on the rights of the state, there now seems to be a desire on the part of those same governors to suggest that the federal government is in a much better position to say who shall and who shall not have coal. Secretary Hoover has made it plain that the federal government will do nothing more than allocate coal to the primary purchaser and look after the coal supplies for the interstate railroads.

While, generally speaking, the public utilities still are fairly well supplied with coal the telegrams reaching Washington indicate that there are many weak sisters among them.

The advance in the wage scale from the 1917 to the 1920 basis in some of the non-union districts is explained on the ground that poor car supply had reduced the number of working days to the point where an additional wage inducement was necessary to keep the men interested.

THAT CONTROL of coal distribution must continue for the remainder of the calendar year and possibly for the remainder of the coal year is becoming more and more apparent. A large corps of workers will be required. It is probable that a deficiency appropriation of $200,000 will be asked for the purpose.

The problem before the government differs considerably from that with which the Fuel Administration had to deal during the war. The situation now is a traffic problem. It is somewhat similar to the situation handled successfully by the Central Coal Committee in 1919 and 1920. As a result of the excellent work done by that committee it is probable that the new organization will be formed along the line of that committee. It may be stated, however, that the methods used by the Central Coal Committee in regard to paying for coal will not be followed. Since the situation is being controlled through the powers vested in the Interstate Commerce Commission, the execution of any plan must be carried out by the railroads. For that reason Henry B. Spencer, the former chairman of the Central Coal Committee, has been chosen as the fifth member of the President's committee.

In addition to the need for an appropriation it is apparent that the administration soon will request legislation giving out-and-out power to fix prices and to seize coal. There is a possibility that a revolving fund will be asked, so that the administrative committee can buy and sell coal when occasion demands.

Even if arbitration negotiations were begun at once it is realized that some time necessarily must elapse before the union fields actually would be producing coal. By that time the country will be so far behind in coal production that supplies will be insufficient for all purposes. For that reason there is certain for many months to be a trying problem in the attempt to see that the more essential activities receive necessary fuel requirements. Control of distribution has not begun as yet, and it will be several days before the necessary machinery can be put into shape for its inauguration. The fact that the job is a railroad traffic problem probably is the reason why Dr. Harry A. Garfield was not requested to take over actual administration of the work. The desire was voiced in official circles that he be made the administrative member of the President's committee as recognition of the work he did during the war and to prevent what would seem to be a further mark of ingratitude for the valuable public service that Dr. Garfield rendered as Fuel Administrator. So far as can be learned, no invitation was extended to him. The reason, doubtless, was that he already had announced that he would not accept such an appointment although the apparent fact that the actual administrator in this situation must be a traffic man may have been the compelling one.

Railroad Strike Situation Encouraging

Reports reaching Washington during the last three days as to the improvement in the railroad strike situation have been encouraging. Apparently, the railroad executives were not thoroughly aroused to the seriousness of the situation before the shopcraft strike. As a result there was hesitancy in taking drastic action to operate with new men. The seriousness of the situation soon became apparent, however, and the results of the delayed effort are only now becoming apparent, it is believed. Traffic is moving better through all the vital junction points and there have been encouraging responses to the railroads' invitations for outside shopmen. The situation will be relieved further, it is believed, as industry is slowed down by lack of coal, thereby making available more men from whom the railroads can draw workers.

The coal operators report much better prospects of obtaining men for the mines that they are opening in the union fields. Once it is established that protection is adequate, it is believed that enough men can be obtained in the Pittsburgh district and in central Pennsylvania to produce a considerable tonnage of coal. It is apparent, however, that the building up of output from mines in the union districts will be a slow process. John L. Lewis' efforts to call together a rump conference of operators in the Central Competitive Field is not being taken seriously by coal operators or in official circles. While it is admitted that there are certain operators in each of the four states who would join Mr. Lewis in this effort, the tonnage that they would control would be insignificant as compared with the total output of the Central Competitive Field. Nevertheless, Mr. Lewis' utterances indicate that the idea of negotiation is being kept alive.

Secretary Hoover on July 30 announced the details of his plan covering coal distribution. His statement reads as follows:

"The federal government will limit its activities in coal distribution entirely to interstate questions. Mr. Spencer has been appointed Fuel Distributor, not Fuel Administrator, because the federal distribution is concerned with coal distribution between the different states, not with coal administration in the sense of the war organization.

"The control of coal distribution to individual consumers within the state boundaries is entirely in the hands of state authorities except for railway coal. The methods of handling coal for railways responsible to the Interstate

Commerce Commission will be determined directly from Washington in maintaining interstate commerce.

"Distribution problems vary in different groups of states; that is in New England, Middle Atlantic, Southern, Middle West, Northern Lake States, Intermountain and Pacific States. The last two groups are able to look after themselves and are not now embraced in active administration. Each state outside the latter groups has been requested to canvass its situation as to stocks and requirements in order of the priority in different classes—public utilities, public institutions, households and industrial coal.

"Each state has been asked to make such rules and regulations as it may see fit to control speculation and distribution within the boundaries of the state. It has been suggested that the co-operation of their state wholesale and retail coal dealers' associations should be secured. The federal government has no authority and can exert none in this matter beyond moral pressure.

"Each state that must import coal from other states has been asked to create a central state agency or committee for the purchase or guarantee of purchases of coal that may be imported into the state from other states or from abroad, all coal to be consigned to an agency designated by the state. By this arrangement a great deal more mobility is given the state authorities in shifting coal to meet its local emergencies. Furthermore, this arrangement will remedy the financial impossibility of asking coal producers to ship to strange consumers whose reliability must be established. The repudiation of coal during the last strike caused great losses and litigation.

"The Federal Fuel Distributor will place these state central purchasing agencies or committees in contact with the coal producers in states of coal surplus and will undertake to see that coal is sold to the central purchasing agencies at a fair price. The state purchasing agencies will indicate the destinations within the states to which coal is to be shipped.

"The federal distribution will prorate the available supplies between states following the general basis of priorities declared by the Interstate Commerce Commission. Where coal is already flowing through natural channels to priority concerns approved by the state agencies, it will continue, but it will form part of the state quota.

"The whole plan is one of complete decentralization into the hands of the state authorities, the federal agencies acting solely in interstate commerce."

Secretary Hoover emphasizes the fact that his organization is not a replica of the Fuel Administration. He announced that instructions had been issued to permit bunkering only to the next port of call. After Aug. 1 all ships sailing from foreign ports must bunker for the round trip. While Canada will not be treated differently than would be the case were it part of the United States, there will be insistence that she take full advantage of opportunities to secure imports from elsewhere.

With the return of H. Foster Bain, director of the Bureau of Mines, from Alaska, he will represent Secretary Fall on the President's committee. George Otis Smith, director of the Geological Survey, will continue to co-operate with the committee, but from this time forward will devote more of his time to the compilation of data for the subsequent use of the fact-finding commission.

Secretary Hoover announced that every effort is going to be made to decentralize the handling of the coal situation. Great reliance is being placed upon the state governors, the state public utilities commissions and upon the railroad administrative officers and coal operators in the different districts. Mr. Hoover stated that there would be no direct effort from Washington to prevent retail profiteering. This he is leaving to the states, although every effort will be made to co-operate closely in any action they may take.

M. H. Aylesworth, executive secretary of the National Electric Light Association, and A. I. Phillips, engineer for the American Gas Association, have been in Washington making arrangements preparatory to the opening of Washington offices so that the public utilities can co-operate closely with the government during the emergency. The utilities expect to work largely through the state public utilities commissions.

The governors of the following states have undertaken to erect the necessary administration to control profiteering and distribution of coal within their states: Ohio, Indiana, Illinois, Michigan, Wisconsin, North Dakota, Minnesota, Maine, Massachusetts, New Hampshire, Connecticut, Rhode Island, New York, New Jersey, Maryland, Pennsylvania, West Virginia, Iowa, Oklahoma, Florida, Kentucky, Tennessee and Louisiana. Kansas already has an establishment under its Industrial Court. It is not considered to establish coal control in the intermountain and Pacific states, as they have supplies of coal and fuel oil.

The following have so far been designated as members of the advisory committee of operators from the producing coal districts under the chairmanship of C. E. Bockus, of Virginia: E. L. Douglas, of Kentucky; George S. Francis, of Pennsylvania; E. C. Mahan, of Tennessee, and W. J. Magee and E. E. White, of West Virginia; also C. E. Tuttle to advise as to Lake and Northwest movement, and Le Baron H. Willard to advise on bunker and tidewater movement.

Three Coal Roads Declare Embargo in Favor of Coal and Food

THE Norfolk & Western, Chesapeake & Ohio, and Louisville & Nashville railroads have declared embargoes over their lines against the acceptance of any freight except foodstuffs, livestock and fuel. This course was taken under the Interstate Commerce Commission's declaration of an emergency, which authorized roads embarrassed by the chopmen's strike to establish priority in transportation.

The embargoes are designed to conserve all the equipment and facilities of the three carriers for the transportation of coal. All three had been carrying record-breaking quantities of coal until the shopmen went out, after which their tonnage was immediately cut in half.

Managements of the roads notified the Interstate Commerce Commission that they would modify the embargo orders as rapidly as conditions permitted, and would gradually accept other classes of freight for movement as they were able to transport it without interfering with the shipment of coal.

Here's a Rocky Mountain Invitation

"COAL men from anywhere and everywhere will be welcome at our fall meeting in Glenwood Springs," is the invitation which the Rocky Mountain Coal Mining Institute issues to the world for its three-day session in beautiful Glenwood Springs, Col., beginning Sept. 7. The Institute has planned a program which includes the pleasures afforded by the mountain region around Glenwood Springs, in addition to technical meetings of wide scope. Papers scheduled for the meetings are these: "Electricity in Coal Mining," by L. M. Cargo and H. S. Sands, of Denver, Col.; "The Practical Use of Pulverized Fuel in Power Plant Work," by T. H. O'Brien, general manager of the Inspiration Consolidated Copper Co., Inspiration, Ariz.; "Wire Rope in Mining," by W. R. Abbott, of Denver, and J. F. Howe, of Worcester, Mass.; "Practical First-Aid Work," by W. F. Murray, of Dawson, N. M.; and "Co-operation in the Coal Industry," by Harry F. Nash, vice-president of the Oakdale Coal Co., Denver.

RESULTS OBTAINED BY W. J. DUNKLEY, gas engineer of the U. S. Bureau of Mines, in the course of experiments made at Ottawa, Ill., in the use of mixed coal and coke fuel for water-gas manufacture, show that capacities up to 97 per cent of the rated capacity with good coke fuel can be obtained, using 70 per cent Illinois coal and 30 per cent coke from Kentucky coal, with 6 ft. gas sets operating up to 10 hours per day. The generator fuel consumption was about 33.5 lb. of mixed fuel per 1,000 cu.ft. of gas made.

"HERE'S A DANGER SIGN. Watch me go past and find the trouble."

He found it. Somebody found him.

Middle West Has Hectic Time of It; "Something New" About to Happen in Illinois and Indiana

By E. W. Davidson

STRIKE developments in the Midwest coal-mining region have been swift and baffling during the past week and promise to be just as swift if not so baffling in Ilinois during the next few days. While Michigan and Indiana were trying without success to induce miners to work enough mines in those states to supply state institutions—Governor McCray of Indiana finally gave the men until Tuesday, Aug. 1, to do it peacefully or he would see that it was done by force—things were popping over in Illinois.

On Monday the operators of Illinois met to consider the situation. They were in session all day in Chicago. Frank Farrington, president of the Illinois miners, was in Chicago the same day. Wednesday Farrington got his state executive committee together in St. Louis, appeared to sound out the sentiment of the striking miners, and then called a state union convention for Aug. 3 in Peoria, Ill. Word naturally went around that Farrington was breaking finally with national headquarters and was going to get authority from the convention to enter into peace negotiations with the Illinois operators. The state thought its mines were about to be opened.

The next day Farrington called off his convention, saying the Associated Press had befuddled the matter by stating, in the news story of the convention order, that the session was called to permit a test of strength between Farrington and Lewis. Later that same day Farrington retracted his charge against the Associated Press and laid it at the door—or mouth—of John Watt, state secretary-treasurer of the union. Watt is reputed to be a Lewis man. Farrington said Watt was "a victim of running off at the mouth" and that statements of Watt and others had made strike settlement in Illinois a dead issue.

Meantime John L. Lewis had broadcasted to the whole country the news that he was on the point of obtaining a four-state conference with operators. With no more explanation for his sudden change of convention plans, Farrington took his foot in hand and scurried to Philadelphia to attend Lewis' conference of union state presidents preparatory to the announced four-state conference with operators. Before going, Farrington replied to an invitation of Acting Governor Sterling of Illinois that he would like to confer with Sterling on the acting governor's plan to get a few of the mines of the state open to supply state institutions with coal, but he really couldn't do a thing about it even if he conferred.

Up to Saturday night no date or place had been announced for the Lewis four-state conference with operators. Indiana on Friday had declined absolutely to have anything to do with such a conference and Illinois took the same attitude but had not, up to that time, received any invitation from Lewis to attend, so it was unnecessary for that state formally to write its refusal. However, the full pressure of Ohio in favor of the conference had been exerted upon both Indiana and Illinois, with no more success, it appears, than was had with the Pittsburgh operators of Pennsylvania.

"Well," commented an Illinois operator's official, "Lewis is stalling around and using up a few more days, anyway. Every day this strike continues, and every day the time approaches when the public will begin to cry for a settlement on the miners' terms, the better the union's grip on the situation."

This same official prophesied that before the end of the first week in August there will be decisive developments in the Illinois situation which will get a grip on the attention of the whole nation. He would not divulge what these developments are to be. The operators' associations have already declared in favor of the opening of enough mines to insure the production of sufficient coal, under union auspices, to stave off fuel famine in Illinois. Since the federal government appears to have no intention of directing any coal from Kentucky and the East into Indiana or Illinois under the new car-distribution plan, it seems that Illinois and Indiana must dig their own coal. Governor McCray and the operators of Indiana have worked out a plan for it in that state under the protection of state troops.

Midwest Coal Men Hope for Success of Plan Of Control by Distribution of Cars

THE general sentiment of the coal trade in the Middle West seems to be favorable to the new federal plan of controlling the distribution of coal through car supply. The superior men in the industry are hoping Mr. Hoover will be successful in this newest effort. Not that they think his scheme is fair and reasonable—or even legal—in every respect; but they are for him anyway.

Practically every man who expresses an opinion about it says that no doubt the Hoover plan of regulating distribution is all right and should work well; but when that same method is used to restrict the price to $3.50 a ton they think a transgression of the law will have been made.

"But I doubt if anybody is going to fight it; that's the point," commented an operator whose string of mines includes one that will be affected at once by the federal scheme. "If anybody tried it, his case would dally along in the courts, while his mine stood idle, until some time in the next generation. So what good would it do to dash into court? Wise men are going to dig coal, sell it at $3.50 and keep it up—so long as this government board continues to supply them with a full quota of cars. But if the car supply fails—then will be the time to kick the Hoover price out."

Hoover Conference Results in Formation of Connellsville Operators' Association

FOLLOWING the return of an operators' committee from Washington, where they held a conference with Secretary Hoover, a public meeting was held in Uniontown, Pa., when the committee reported that the price-control plan through distribution of cars had "teeth" in it and that there was nothing to do but comply. As a result of that public meeting has grown the first organization of Connellsville coal operators, the Fayette-Greene Coal Operators' Association.

George Whyel was named president; W. W. Parshall, vice-president, and E. D. Brown, secretary. The executive committee consists of the officers and the following: W. C. Hood, representing the H. C. Frick Coke Co.; John Sincock, of W. J. Rainey, Inc.; M. B. Cooper, of the Hillman interest; C. F. Lingle, representing the Greene County operators; H. M. McDonald, John B. Moore and W. D. McGinnis.

While Connellsville is one of the principal coal-producing regions in the country it has never been represented by an organization of operators. The Coke Producers Association, an exclusive organization of coke operators, has been inactive for some years.

Experiments on the treatment of lignite, raw and carbonized, by the Trent process are being made in North Dakota by W. W. Odell, fuel engineer of the U. S. Bureau of Mines. Construction of a vertical lignite carbonizing oven has been completed.

Cancellation of the Assigned-Car Hearing has been announced by the Interstate Commerce Commission. The matter will be taken in a new proceeding at some future date after the passing of the emergency.

Borah Coal-Commission Plan Held in Abeyance by President Harding

SENATOR BORAH, chairman of the Senate Committee on Education and Labor, held a conference July 28 with President Harding on the Borah bill proposing that a commission study the coal question, with a view to reporting a plan for permanent legislation to control the coal industry.

President Harding advised Senator Borah that he was in full sympathy with the purposes of the measure. The President asked Senator Borah to visit him again early this week and go over the matter further, when the President expects to know more about the outlook for a settlement of the strike.

Since introducing his resolution Senator Borah evidently has learned that the work he prescribes for three commissioners at $8,000 a year is an undertaking which will require a large organization to carry through and will cost hundreds of thousands of dollars. The task is even more complicated than the valuation of the railroads and many years would be required to gather accurately the information which he proposes should be done in nine months.

Senator Borah's bill, introduced July 25, proposing that a commission be created to inquire into the advisability of nationalizing the coal industry, provides that the commission be composed of three members, to be appointed by the President, subject to the advice and consent of the Senate. Members of the Senate and House, however, shall be ineligible to serve on the commission.

One member of the investigating body, the measure provides, shall be chosen from a list of three nominees presented by the National Coal Association, one from three names submitted by the United Mine Workers and the third shall represent the public, but must not be interested in a business way in the coal industry. The salary of each commissioner is to be $8,000 a year. The commission shall cease to exist one year after the passage of the act unless otherwise provided by Congress.

It shall be the duty of the commission "to investigate fully the conditions, ascertain the facts, and study the questions relating to the coal industry with a view of aiding, assisting and advising the Congress relative to legislation either in the nationalization or the regulation and control of the coal industry by the government. To this end the commission shall ascertain and report to the Congress and to the President, first, as to the ownership and title of the mines; second, cost of production; third, profits realized by the operators or owners of said mines during the last ten years, labor costs, wages paid, irregular production and suggestions as to the remedy for the same and all facts, circumstances or conditions which would be deemed essential in determining and establishing a wise policy relative to the said industry by the government."

The bill also provides that the commission shall submit recommendations relative to:

"(a) Standardizing the mines upon the basis of their productive capacity and regarding the closing down of mines which by reason of their natural limitations fall below the standard.

"(b) Standardizing the cost of living for mine workers and the living conditions which must be supplied or afforded in order to surround the workmen with reasonable comforts, recognizing the psychological effect of such surroundings in respect to their efficiency.

"(c) Standardizing a basis of arriving at the overhead cost of producing the coal and delivering it at the door of the consumer, recognizing in this compilation that the standardized cost of living to the miners must be the first and irreducible item of expense.

"(d) The advisability or necessity of nationalizing the coal industry.

"(e) The feasibility or necessity of governmental regulation and control of the coal industry."

The commission is to render its first report and recommendations as soon as practicable but not later than nine months from the passage of the bill. In making its investigation the commission may require by subpoena the attendance of any person and the production of any book, paper, document or other evidence from any place in the United States at any designated place of hearing, and no person shall be excused from attending and testifying or from producing evidence on the ground that the testimony or evidence may tend to incriminate him. The penalty for violation of this provision is $5,000 fine or imprisonment for one year, or both.

For defraying the expenses of the maintenance and establishment of the commission, including the payment of salaries, provision is made for the appropriation of $100,000 or so much thereof as may be necessary, to be available until one year after the passage of the act.

Harding on National Wage Scales

IN REPLY to a query from the Governor of Michigan President Harding telegraphed that state executive on July 28 as follows regarding the policy of the United Mine Workers on national wage scales:

"It is a matter of record that coal operators and mine workers in many districts have been quite ready to come to an understanding in very short order, but the policy of the national organization is hostile to any district or state arrangement. This apparently is one of the issues involved and is one which must be definitely settled. I do not know of any way of settling it under the legal authorities which are now possessed by either state or federal government. Manifestly, legislation must be provided, and I mean to submit the whole problem to Congress at the earliest consistent time possible after the House reassembles.

"If the coal producers of the United States were so organized that a national body were to determine the policy of every member and permit no sales of coal except on dictation of terms by the national officials, every state legislature and Congress itself would instantly put an end to such a practice. The mine workers unhesitatingly assumed national dictation. It is the big issue involved in the present dispute. Frankly, I think it must be delt with if we are to have any security and with any assurance of a supply of fuel."

BRITISH COLLIERY OWNERS TO ERECT 10,000 HOUSES.—A scheme for the erection of colliery villages being undertaken by a British industrial association composed of colliery owners is based upon the principle of trading without profit. The program, it is stated, includes the erection of about 10,000 houses at the rate of 2,000 a year without any form of government subsidy. It is proposed to make application for a loan from the Public Works Loan Board. The difficulties which confront the mine owners in respect of the housing question, particularly where houses are provided free, was indicated at the annual general meeting of one of the large colliery groups last month. It was stated then that a workman's cottage could be erected at a cost of £400, which was estimated to work out at a cost of 1s. 7¾d. per ton of coal, assuming 1¾ workers per house and an average output of 250 tons per person employed.

MEMBERS OF THE HOUSE OF LORDS call themselves gentlemen, but they wouldn't give Lady Rhondda a seat.—*New York American.*

A GLANCE AT the proposed tariff schedules confirms rumors that the crumbling Peak of Prices is to be restored to its former lofty grandeur.—*Brooklyn Eagle.*

"SIGN SAYS THIS LADDER'S UNSAFE. What of it? I ain't got time to go around."

So he went right up—and came right down again in a heap.

Seventeenth Week of the Coal Strike

EDITORIAL REVIEW

INTEREST in the railroad strike eclipsed that in the coal strike last week. The administration at Washington directed its principal efforts in the direction of getting the railroad men settled once more in their jobs and to rounding out the federal, state and local organizations for administering the priority orders. For the time being the government has been directly engaged in making what coal there is go further and in increasing the output from the non-union fields, crippled since July 1 by the rail strikes.

Efforts of operators in union fields to get their mines in operation have been practically fruitless. In the Pittsburgh district, where most was expected and where military protection has been provided, almost no coal has as yet been loaded out, and in Ohio no attempt has been made to operate any except the strip mines which were in operation in the early part of the summer and have been closed by intimidation of their workers.

Illinois and Indiana operators cannot work their shaft mines without licensed labor and have made no attempt to resume production. The Governor of Indiana has threatened to call the Legislature and to ask it to repeal the law which acts as a bar to coal production. This would be a blow to the miners.

No effort has been made to get out coal in the anthracite region and it is understood none will be until the union puts the men back.

On the union side John L. Lewis has been diverting attention from the question of the union's attitude toward arbitration by talking a great deal about getting sufficient operators together to start a joint interstate conference. In this he is quite persistent, despite the reiterated refusals of substantial groups of producers. There appears to be as wide divergence of opinion among the miners as in the ranks of the soft-coal operators, but John L. Lewis manages to hold the workers together.

There was no material change in the situation in the Connellsville coke region during the past week.

Miners Will Not Be Driven Back to Work at Starvation Wages, Says Lewis

BEFORE leaving New York for Philadelphia to confer with the presidents of the unions in the anthracite fields on July 26, John L. Lewis, president of the United Mine Workers of America, issued the folowing statement:

"Ten days have elapsed since the President directed the coal operators of the country whose miners are on strike to return to their homes and resume the production of coal, following which he telegraphed the governors of the several commonwealths urging them to accord military protection to all coal companies employing strike breakers.

"Despite the promulgation of this policy by the Federal Government and its punctual application by several governors, there has been no increase in coal production. Not a single union miner has returned to work throughout the length and breadth of the land and it must now be obvious to all that the American miner will not be driven back to work at starvation wages and under non-union conditions by any fanfare of trumpets or vain military display. The assembling and training of engines of war to awe American citizens who are merely exercising their inherent constitutional right to cease work in order to maintain their industrial and social status as citizens of the Republic would be a national farce did it not possess the elements of tragedy.

"The presence of state troops in large numbers in communities where no transgression of the law has occured in itself constitutes a menace to domestic tranquillity and creates a situation repugnant to the ideals of every free-born American. Aside from the question of equity and constitutional rights which are involved, the public is being heavily taxed to maintain military forces in the field to assist mining corporations who deny industrial justice to their employees and are applying labor-crushing anti-union policies. The employment of the citizen soldiery of our country in the protection of imported strike breakers in the mining industry is bound to lessen the respect of a large part of our citizenship for the National Guard as an impartial institution.

"The lamentable breakdown of the federal policy actually lessens the desire of the public for further experiments of this sort. The public is primarily concerned with its future coal supply and the summer is on the wane. Time is an important factor. The loss of an additional ten days to further develop fantastic schemes in the field of industrial experimentation can hardly be afforded.

"The mine workers are resolved not to be driven back to the mines by any threat of force and neither do they intend to return until the coal operators of the country are required to meet them in joint conference in order that a new wage scale may be negotiated.

"The principles of collective bargaining are at stake, and the right to employment at a living wage is an issue which must be considered.

"The coal strike, now in its seventeenth week, involving more than 600,000 men and affecting the welfare of our nation, is in itself a colossal industrial tragedy which reflects no credit upon our antiquated industrial relations or American statesmanship. Such a condition, by every rule of reason and logic, is indefensibly wrong and is an outrage to every moral and economic principle.

"The miners are anxious to settle this strike and resume the production of coal. We are ready to meet in joint conference with the coal operators at the earliest moment if such a conference can be arranged in harmony with the contractual obligations of the coal companies and in line with the procedure which has prevailed in the industry for more than a quarter of a century.

"The adjustment of a national strike in this national industry cannot be accomplished through the instrumentality of state or district settlement. No district conference or agreement will be sanctioned by the Mine Workers Organization. The Mine Workers' representatives will hold themselves in readiness to respond to any logical and practical attempt to effectuate an adjustment."

Miners Return to Work in Increased Numbers in Central Pennsylvania

SLIGHT increases in the number of miners who have returned to work were reported all along the line of the Cambria-Somerset-Indiana sector of the coal-strike area of central Pennsylvania up to July 28. The largest additions at the mines were reported from Colver and Twin Rocks. About one hundred reported for work at the mines of the Ebensburg Coal Co. at Colver and the largest production since the walk-out at this mine several weeks ago was reported. Ten cars were shipped from the Twin Rocks district, three of which were from the Commercial Coal Mining Co., which is operating under guard.

Operations were resumed at No. 9 mine of the Bethlehem Mines Corporation at Heilwood with a few men returning to work and Mine No. 11 is expected to reopen this week. Officials are confident that the majority of the men will return to work.

At Windber the Reitz Coal Co. has a full force of men at work and production will be at a pre-strike rate within the present week. About 100 cars of coal was shipped from the Windber district, showing a substantial gain. Additional men are back to work at Kelso. Calls for guards have been received at National Guard headquarters at Ebensburg from a number of other operations.

United Mine Workers in the field are redoubling their efforts to restrain the men from returning to work, with the result that James H. Maurer, president of the State Federation of Labor, has opened headquarters in Johnstown and is addressing meetings of miners at various places.

Michigan Union Officials Refuse To Comply with Governor's Request

OFFICERS of the Michigan district of the United Mine Workers have definitely refused to comply with the request of Governor A. J. Groesbeck that they return to work to produce coal for state and municipal needs. The reply to the Governor, signed by Thomas L. Jones, district president, asserts that for the miners of Michigan to resume work before the end of the strike would be to "dig their own graves." It is pointed out that one year ago state institutions of Michigan were contracting with producers outside the state for coal supply, as was also the Bay City School Board.

"Inasmuch as the Michigan mine worker was denied the opportunity to supply coal for municipal and state institutions it is not to be expected that we are going to do it at this time when great principles are at stake," says the communication to the Governor.

Operators of Southwest Indorse Harding Plan for Resumption

A SPECIAL convention of the Southwestern Interstate Coal Operators' Association at Kansas City, Mo., on July 24, 1922, gave consideration to the report of the majority committee of the bituminous coal operators to President Harding in reply to his proposal to the operators and miners for an arbitration commission. Its provisions were regarded as being ample and sufficient to have brought about a peaceful and orderly settlement of the strike. Unanimous approval and endorsement was given the plan as serving the best interest of the public, the bituminous operators and the employees in the coal industry and regret was expressed that the miners declined.

Consideration also was given to President Harding's later invitation to resume operation of mines with such voluntary labor as could be obtained.

The report of the convention says that the members of the Southwestern Interstate Coal Operators' Association, "realizing and appreciating their obligation to the public as producers of coal, feel that in this hour of need, as loyal citizens of our government, it becomes our duty and we hereby pledge our unanimous and hearty response to the call of President Harding for the resumption of coal mining at the earliest possible moment; notwithstanding the many obstructions and difficulties that must be overcome in such an effort.

"In order to carry out this response to the President's direction as effectively and efficiently as possible, we make the following recommendations:

(1) That the operators in each state represented in this meeting shall appoint a committee of five operators, as a state executive committee for said state. It shall be the duty of said committee to confer and arrange with the county and state authorities for such proper protection as may be necessary to protect life and property in the mining industry. Said committee shall in conjunction with each local mine owner and the association officers have jurisdiction in each state over all matters applying to and governing the preliminary operation of mines.

(2) All association mines that are now operating shall be encouraged to increase their operations and production to maximum capacity.

(3) That the offer of employment by association members shall be made to experienced mine workers now in the field, who in the judgment of the management are most suited for the various classes of work.

(4) That the wage scale to be paid for day rates, tonnage, dead work and yardage work shall be in conformity with the majority report of the bituminous coal committee made to President Harding.

(5) That the rules and regulations governing contract conditions for the operation of mines, adopted by the General Scale Committee and approved by the last special convention of the association shall be adopted and put into effect in connection with the above wage scale and all members shall be required to comply with said rules and regulations governing their mines.

(6) We wish the public to understand that the Southwestern Interstate Coal Operators' Association is not antagonistic to union labor, when properly conducted nor to the United Mine Workers, nor to collective bargaining, but having failed to secure a continuation of the Southwestern Interstate Conference, convened March 29 and which adjourned April 10, wherein the miners refused to undertake negotiations for a wage scale and in view of the four additional efforts by letters and telegrams to the national and district officers seeking to reconvene the Southwestern Interstate Conference to consummate a wage scale, and which were declined by the miners, we now find it necessary to recognize our obligations to the public and to our government in its call to resume mining operations and realizing the difficulties of this undertaking, through the probable resistance of the organized forces of the miners and labor generally, we ask the public to be patient in its demands for coal and to render such co-operation and assistance as all good citizens should, who believe in the orderly and peaceful procedure of industry, exercising its legal and lawful rights to meet the needs of a nation in its dire distress, and to further assist in the encouragement and enforcement of laws by all legal constituted authorities.

Court of Appeals Sustains Injunctions Except in Regard to Tent Colonies

THE U. S. Circuit Court of Appeals at Richmond has sustained Judge George W. McClintic, of the U. S. District Court for the Southern District of West Virginia, on the appeal taken by the United Mine Workers of America from the injunctions granted in five fields and has modified the injunctions granted by the lower court only to the extent that the Borderland case was modified and that is with reference to the maintenance of tent colonies.

Injunctions were obtained on Monday, July 24, by additional companies in the Kanawha field to halt the activities of the United Mine Workers in attempting to interfere with the operation of mines. The temporary restraining orders were issued by the U. S. District Court for Southern West Virginia and cover the mines of the following companies: Southern States Coal Co., Black Bird Coal Co., Valco Coal Co., Lincoln Coal & Coke Co., Piney-Pocahontas Coal Co., Glenn Coal Co., Lomo By-Products Coal Co. and Black Band Consolidated Coal Co.

Local unions at the following places are covered by the injunctions: Morrisville, Cofoco, Cheylan, Handley, Kayford, Burnwell, Dry Branch, Plymouth, Mordue, Marmet, Malden, Whitesville, Crown Hill, Shrewsbury, Montgomery, Sharon, Raymond City, Coalburg, Winifrede, East Bank, Colcord, Big Chimney, Petona, Eldale, Gallagher, Smithers, Wevaco, Cannelton, Leevale, Boncar, Wake Forest, Highes-ton, Dana, Sharples, Montcoal.

Production in Western Canada Improved Slightly Late in July

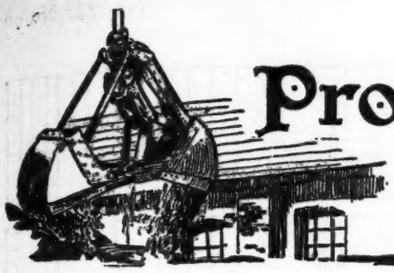
THE British Columbia situation with respect to coal production showed little change during the latter half of July. In the Crow's Nest field the mines still are closed owing to the strike. The collieries of the Nicola-Princeton area are operating much as usual, although the Coalmont Collieries are doing somewhat better, their output averaging 800 tons a day, which is a considerable jump. On Vancouver Island the Canadian Collieries (D), Ltd., at Comox and Wellington have not yet been required to work full time to meet the demand. The Western Canadian Fuel Corporation, however, is reported to have signed contracts that will absorb its capacity production for a time. Consequently the mines at Nanaimo and in that immediate district are active. In the north there is some prospecting of the coal fields adjacent to the Grand Trunk Pacific Ry. and it is assured that mines will be operated on a small scale to meet the coal requirements of Prince Rupert and other local centers during the winter.

NO LABOR TROUBLE has been noted in the northern coal fields of Colorado since the National Guard and the Colorado Rangers were first sent into the strike districts. Rangers are widely scattered over the entire coal area in the state. Ten rangers appear to have more effect than a company of troops, as most of them are personally acquainted with the strikers and retain their respect.

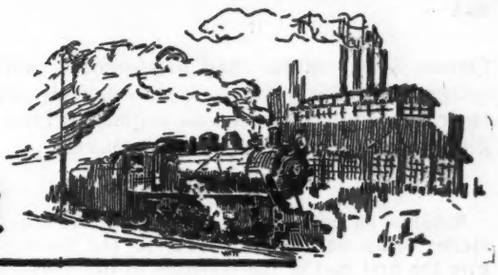
A prominent merchant of Denver, Col., writes us: "We have practically no coal strike here in this state. We have to thank our Governor for this state of affairs. We had sad experiences during former coal strikes, when the National Guard had to be called out after much damage was done.

"This time the State Rangers were in the different coal camps the day before the strike started. The result was that we had no violence since and the mines are operating.

"Our Governor, Oliver H. Shoup, deserves the thanks and recognition for the stand he has taken."



Production and the Market



Weekly Review

THE steadying influence of the government on the price and distribution of coal is now making itself felt. Production is again on the increase as the tangles caused by the rail strike are being straightened out. The Geological Survey estimates the output last week at 3,900,000 tons, a gain of 200,000 tons, or 5 per cent over the previous week. This increase came mainly from the non-union fields in the South, but Pennsylvania contributed some.

Prices continue strong. *Coal Age* Index of spot prices of bituminous coal at the mines rose 96 points to 556 on July 31. This corresponds to an average spot price of $6.73. Prices on Western coals, particularly those from Kentucky, declined with the collapse of the boom on the Chicago market a week ago. Cincinnati, Columbus, Cleveland and Boston were the most active markets as the week opened.

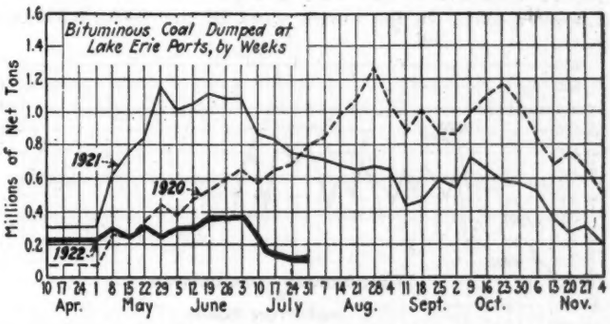
Government Price Control Now a Moral Influence

Washington's machinery for handling the details of distribution is in the making and the control over prices is yet but a moral influence. The structure is being built from the top down, but it is being well built, extending into the states and cities through the co-operation of state commissions and local fuel administrators. Secretary Hoover is getting ready to meet a situation that is more than transient, a shortage that is yet to be fully felt and that will not be over until next spring.

The railroads are the only consumers that have found it necessary so far to take advantage of the priority orders—the Pennsylvania is taking 20 per cent of output on its lines. These orders were primarily for their protection and they are now using them to get coal. Where the roads demand the coal, shippers are letting them have it below the market rather than have it confiscated.

Buying of British coal, the feature of last week's review, has abated somewhat, mainly because both coal and ships have become scarce if wanted for immediate delivery and because prices advanced sharply. Whereas two weeks ago English coal could be had c.i.f. New York for around $7.50, it is now obtainable for late August and September delivery at around $10.

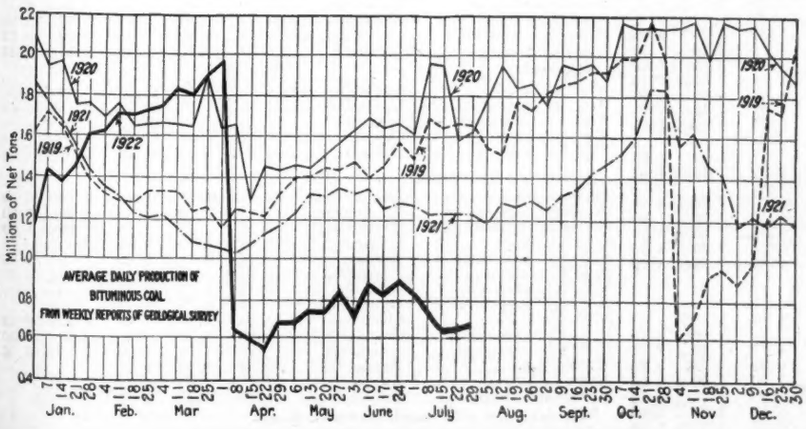
A survey just completed by officials in Washington of the Lake coal situation indicates that it is physically possible to move enough coal to give the Northwest



reasonable supplies if the Lake movement is begun by Sept. 1. Such a program, however, presupposes full co-operation on the part of ship owners and that there will be no delays to vessels in obtaining coal for loading at the lower ports.

Anthracite shipments embrace mine storage and an increasing volume of river steam coals. Pea and smaller sizes are about all that are moving from the storage piles. Retailers are reordering heavily of pea, using this as a substitute for the family sizes. Railroads also are taking pea coal and are requesting the companies to reserve them a considerable amount of this tonnage in lieu of the smaller sizes. It is likely therefore that this grade will soon be off the market.

Coke offerings have decreased considerably. Connellsville spot coke is extremely scarce, the improvement in operations recently noted having referred chiefly to



Estimates of Production

(Net Tons)

BITUMINOUS

Week ended:	1921	1922
July 8 (*b*)	6,165,000	3,678,000
July 15 (*b*)	7,401,000	4,123,000
July 22 (*a*)	7,380,000	3,701,000
Daily average	1,230,000	617,000
Calendar year	217,410,000	199,354,000
Daily av. cal. yr.	1,274,000	1,162,000

ANTHRACITE

July 8 (*b*)	1,525,000	23,000
July 15 (*b*)	1,876,000	31,000
July 22 (*a*)	1,837,000	27,000

COKE

July 15 (*b*)	44,000	100,000
July 22 (*a*)	41,000	104,000
Calendar year	3,517,000	3,514,000

(*a*) Subject to revision. (*b*) Revised from last report

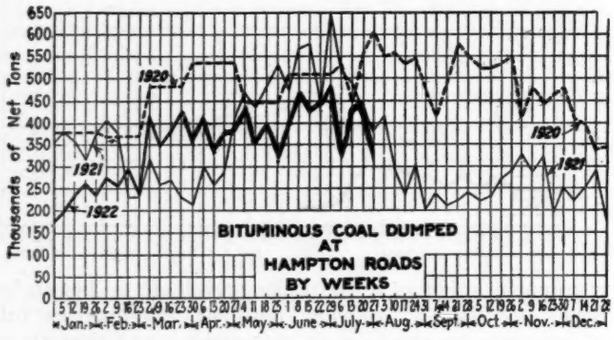
furnace ovens rather than to merchant ovens. In this section byproduct ovens are now largely dependent on their reserve coal stocks, as shipments from West Virginia and Kentucky have almost ceased.

BITUMINOUS

Returns on coal output in the seventeenth week of the strike (July 24-29), according to the Geological Survey, give the first test of the response to the invitation to reopen mines. "There has been a slight recovery as compared with the sixteenth week," the Survey says. "Production is running at the rate of 3,900,000 tons, against 3,700,000 tons last week. The increase is due partly to more men at work in Pennsylvania, partly to improved car supply in southern West Virginia, and partly to heavier shipments from Alabama and the Far West. Production of anthracite remains practically at zero.

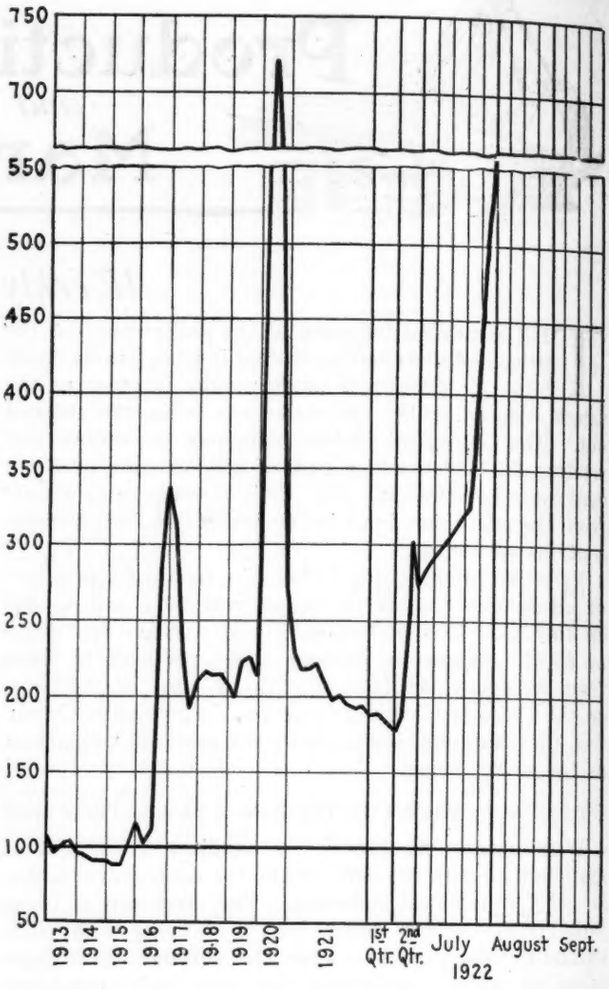
"Loadings on Monday, July 24, were 13,083 cars. This was 417 cars above the preceding Monday, but 3,664 cars below the last Monday before the shopmen's strike. On Tuesday and Wednesday loadings declined, but on Thursday a slight recovery was noted.

"It thus appears likely that the total output for the seventeenth week will be less than 4,000,000 tons, probably only 3,900,000 tons. In the lowest week of the strike 3,575,000


Thousands of Net Tons
1920
1921
1922
BITUMINOUS COAL DUMPED AT HAMPTON ROADS BY WEEKS
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

tons were produced and in the highest week (June 19-24) 5,363,000 tons. The decrease since June is attributable to traffic congestion resulting from the shopmen's strike. In the Middle Appalachian region the congestion is still acute, although a slight improvement over last week has been reported from certain districts.

"There is no indication of increased production in response to the invitation to reopen mines in any of the strongly organized districts. More coal is coming out of the former non-union fields of Pennsylvania and a little more from the Fairmont and Kanawha districts of West Virginia, but



Coal Age Index 556, Week of July 31, 1922. Average spot price for same period $6.73. This diagram shows the relative, not the actual prices on fourteen coals, representative of nearly 90 per cent of the total output of the United States, weighted in accordance first with respect to the proportions each of slack, prepared and run-of-mine normally shipped and second, with respect to the tonnage of each normally produced. The average thus obtained was compared with the average for the twelve months ended June, 1914, as 100, after the manner adopted in the report on "Prices of Coal and Coke, 1913-1918," published by the Geological Survey and the War Industries Board. (Pittsburgh District, Illinois, Indiana and eastern Ohio prices not included in figures for last week.)

Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F O. B. Mines

	Market Quoted	July 3 1922	July 17 1922	July 24 1922	July 31 1922†
Low-Volatile, Eastern					
Smokeless lump	Columbus	$3.65	$3.95	$6.00	**$8.00@$9.00**
Smokeless mine run	Columbus	3.45	3.75	6.00	**7.50@ 8.75**
Smokeless screenings	Columbus	3.25	3.45	5.50	**7.50@ 8.50**
Smokeless lump	Chicago	3.65	4.15	8.25	*7.75@ 8.50*
Smokeless mine run	Chicago	3.40	4.15	8.25	*7.75@ 8.50*
Smokeless lump	Cincinnati	3.75	4.40	5.40	**3.75@ 8.00**
Smokeless mine run	Cincinnati	3.45	3.80	5.25	**3.50@ 7.50**
Smokeless screenings	Cincinnati	3.25	3.25	4.90	**3.25@ 7.00**
*Smokeless mine run	Boston	6.20	6.55	7.65	**7.50@ 8.75**
Clearfield mine run	Boston	3.45	3.40	3.65	**5.50@ 6.50**
Cambria mine run	Boston	3.70	3.85	4.00	**6.50@ 6.75**
Somerset mine run	Boston	3.50	3.50	3.75	**5.50@ 6.50**
Pool 9 (Super.Low Vol.)	New York	4.65	.....	.....	.....
Pool 9 (Super.Low Vol.)	Philadelphia	4.55	4.75	.....	**7.50@ 9.00**
Pool 9 (Super.Low Vol.)	Baltimore	4.00	4.50	4.75	**7.00@ 7.50**
Pool 10 (H.Gr.Low Vol)	New York	4.40	4.80	8.75	.....
Pool 10 (H.Gr.Low Vol.)	Philadelphia	4.25	4.55	.....	**7.50@ 8.50**
Pool 10 (H.Gr.Low Vol.)	Baltimore	4.00	4.50	4.75	**7.00@ 7.50**
Pool 11 (Low Vol.)	New York	4.15	4.60	8.25	**7.50@ 8.00**
Pool 11 (Low Vol.)	Philadelphia	3.90	4.40	.....	**7.50@ 8.50**
Pool 11 (Low Vol.)	Baltimore	3.90	4.30	4.75	**7.50@ 8.00**
High-Volatile, Eastern					
Pool 54-64 (Gas and St.)	New York	4.25	4.70	8.75	*7.50@ 8.00*
Pool 54-64 (Gas and St.)	Philadelphia	.....	4.40	.....	**7.50@ 8.75**
Pool 54-64 (Gas and St.)	Baltimore	3.90	4.10	4.75	**7.00@ 7.75**
Kanawha lump	Columbus	3.65	4.00	6.00	**7.25@ 8.75**
Kanawha mine run	Columbus	3.40	3.65	5.90	**7.00@ 8.50**
Kanawha screenings	Columbus	3.15	3.40	5.90	**7.00@ 8.50**
W. Va. Splint lump	Cincinnati	3.65	4.25	5.15	**3.75@ 9.00**
W. Va. Gas lump	Cincinnati	3.65	4.25	5.15	**3.75@ 9.00**
W. Va. mine run	Cincinnati	3.45	4.00	5.25	**3.50@ 8.50**
W. Va. screenings	Cincinnati	3.25	3.60	4.75	**3.25@$8.50**
Hocking lump	Columbus	3.65	3.80	5.75	**7.50@ 8.75**
Hocking mine run	Columbus	3.40	3.70	5.50	**7.00@ 8.50**
Hocking screenings	Columbus	3.10	3.40	5.50	**7.00@ 8.50**
Pitts. No. 8 lump	Cleveland	4.25	4.75	7.25	**8.00@ 9.00**
Pitts. No. 8 mine run	Cleveland	4.00	4.40	7.25	**8.00@ 9.00**
Pitts. No. 8 screenings	Cleveland	4.00	4.40	7.25	**8.00@ 9.00**
Midwest					
West Ky. lump	Louisville	4.40	6.15	10.25	*7.00@ 7.50*
West Ky. mine run	Louisville	4.40	6.15	10.25	*7.00@ 7.50*
West Ky. screenings	Louisville	4.40	6.15	10.25	*7.00@ 7.50*
West Ky. lump	Chicago	4.45	6.50	11.00	*8.00@ 8.25*
West Ky. mine run	Chicago	4.45	6.50	11.00	*8.00@ 8.25*
South and Southwest					
Big Seam lump	Birmingham	2.35	2.35	2.40	**4.00@ 5.00**
Big Seam mine run	Birmingham	2.15	2.20	2.35	**4.00@ 5.00**
Big Seam (washed)	Birmingham	2.15	2.40	2.50	**4.00@ 5.00**
S. E. Ky. lump	Chicago	3.65	4.15	9.40	*7.75@ 8.25*
S. E. Ky. mine run	Chicago	3.40	4.15	9.40	*7.75@ 8.25*
S. E. Ky. lump	Louisville	3.75	4.40	9.25	*7.00@ 8.50*
S. E. Ky. mine run	Louisville	3.50	4.15	9.25	*7.00@ 8.50*
S. E. Ky. screenings	Louisville	3.50	4.25	9.25	*7.00@ 8.25*
S. E. Ky. lump	Cincinnati	3.70	4.25	7.00	**7.00@ 8.50**
S. E. Ky. mine run	Cincinnati	3.50	4.00	5.00	**3.50@ 8.50**
S. E. Ky. screenings	Cincinnati	3.20	3.75	4.65	**3.25@ 8.50**
Kansas lump	Kansas City	5.00	5.00	5.00	5.00
Kansas mine run	Kansas City	4.25	4.75	4.75	4.75
Kansas screenings	Kansas City	3.05	4.25	4.25	4.25

*Gross tons, f. o. b. vessel, Hampton Roads.
†Advances over previous week shown in **heavy type**, declines in *italics*.
NOTE—Smokeless prices now include New River and Pocahontas.

the additional supply from these sources is not yet significant in comparison with the requirements of the country."

The mine reports show how serious has been the effect of the railway shopmen's strike on mine working time. Losses due to traffic congestion grew steadily worse and extended into practically every field east of the Mississippi in which mines are now active. In the Harlan field, where a large majority of the mines were already shut down full time because of transportation disability, practically no improvement occurred, and in the Hazard district transportation losses increased 71.2 per cent in the week of July 15. "All districts in Southern West Virginia, where but little difficulty had previously been experienced in handling traffic, showed greatly increased losses through transportation," says the Survey. "The most serious of these were in Logan, Pocahontas, Tug River, and Kenova-Thacker."

Hampton Roads dumpings decreased during the week ended July 27 to 324,377 net tons, compared with 445,030 tons the week of July 20. Two piers recorded losses and one, the Virginian, had a slight gain.

Shipment of coal to New England by rail is limited to a few hundred cars per week each of soft and hard coals. In the week of July 22 there passed through the gateways 433 cars of anthracite and 445 cars of bituminous coal. The anthracite is nearly all pea and smaller sizes. In the same week shipments of coal to New England through Hampton Roads declined to 176,878 net tons, compared with 236,003 tons the week before.

Lake shipments have about reached the bottom figure. In the week ended July 31 total dumpings at Lake Erie ports were 146,163 tons, of which 15,781 tons were bunker coal and 130,382 tons were cargo. Total dumpings for the season to date are only 4,535,210 tons, as compared with 13,418,819 tons in the corresponding period of 1921. The Northwest is facing an almost certain shortage this winter unless shipments up the Lakes take an immediate spurt. There is almost no unsold tonnage on the docks and the majority of this is being reserved for old customers.

ANTHRACITE

Production of anthracite during the week ended July 22—about 27,000 net tons—was practically all steam coal dredged from the rivers. Mine storage stocks now consist mainly of pea coal and smaller sizes and retailers are taking the former for distribution as a substitute for their trade. Both householders and dealers are placing orders for the family sizes to be delivered as soon as mining is resumed.

How the Coal Fields Are Working

Percentages of full-time operation of bituminous coal mines, by fields, as reported by the U. S. Geological Survey in Table V of the Weekly Report.

	Six Months July to Dec. 1921	Jan. 1 to Apr. 1, 1922 inclusive	April 3 to July 15, 1922 inclusive	Week Ended July 15
U. S. Total	45.6	55.7	....	....
Non-Union				
Alabama	63.5	64.6	75.4	92.2
Somerset County	55.5	74.9	45.1	38.8
Panhandle, W. Va.	55.3	51.3	44.6	53.3
Westmoreland	54.9	58.8	82.6	89.5
Virginia	54.8	59.9	79.6	64.1
Harlan	53.3	54.8	48.0	7.6
Hazard	51.7	58.4	56.7	28.8
Pocahontas	49.8	60.0	74.8	45.2
Tug River	48.1	63.7	81.4	56.4
Logan	47.6	61.1	73.8	34.3
Cumberland-Piedmont	46.6	50.6	16.0	22.1
Winding Gulf	45.7	64.3	71.0	67.3
Kenova-Thacker	38.2	54.3	78.3	59.4
N. E. Kentucky	32.9	47.7	55.8	39.2
New River‡	24.3	37.9	27.7	46.2
Union				
Oklahoma	63.9	59.6	14.7	16.1
Iowa	57.4	78.4	0.0	0.0
Ohio, Eastern	52.6	46.6	0.0	0.0
Missouri	50.7	66.8	2.0	4.1
Illinois	44.8	54.5	0.0	0.0
Kansas	42.0	54.9	15.7	24.0
Indiana	41.4	53.8	0.0	0.0
Pittsburgh†	41.2	39.8	0.0	0.0
Central Pennsylvania	39.1	50.2	11.8	13.2
Fairmont	35.3	44.0	4.0	4.6
Western Kentucky	32.5	37.7	62.8	71.6
Pittsburgh*	30.4	31.9	0.0	0.0
Kanawha	26.0	13.0	5.6	8.1
Ohio, southern	22.9	24.3	0.0	0.0

* Rail and river mines combined.
† Rail mines.
‡ Union in 1921, non-union in 1922.

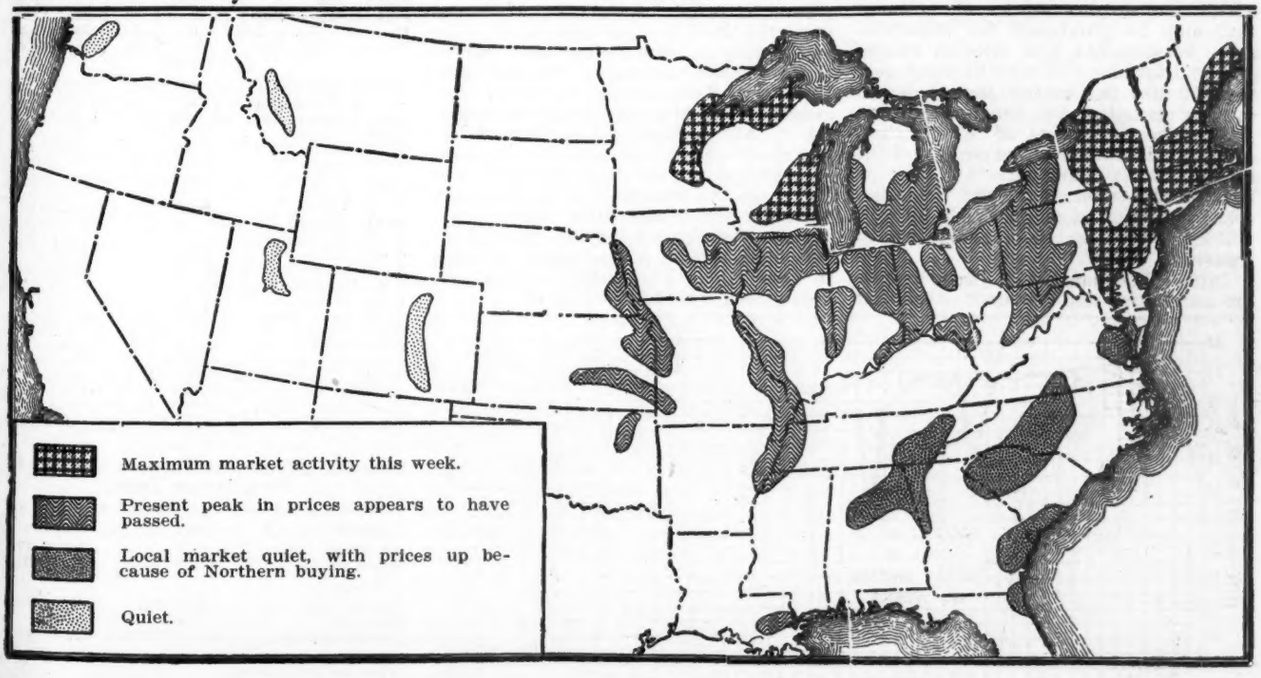
Car Loadings and Surpluses

	All Cars	Coal Cars
Cars loaded:		
Week ended July 15	860,907	77,334
Previous week	718,319	68,996
Same week a year ago	774,884	151,288
Surplus cars:		
July 8	405,120	146,743
July 1	405,180	147,558

COKE

Beehive coke production was 104,000 net tons during the week ended July 22. The output appears to have found a level at about 100,000 tons per week, the figure for the week ended July 15. The principal factor in the increase was in the Connellsville region, although this was confined mainly to furnace ovens. The amount of spot coke offering therefore has not been increased proportionately and as a result spot prices have climbed further.

Relative Activity of Markets for Bituminous Coal at End of Seventeenth Week of Strike


Maximum market activity this week.
Present peak in prices appears to have passed.
Local market quiet, with prices up because of Northern buying.
Quiet.

Foreign Market And Export News

American Shippers Active in British Market; Production Registers Slight Increase

AMERICAN shippers are actively seeking tonnage to replace their strike losses. Public utilities and railroads have been the heaviest buyers, and now that the United States Government has given priority to these consumers, considerable tonnage of domestic-mined coals will be available to them. This makes the American market a rather uncertain and temporary one for the British shipper.

British production during the week ended July 15 was 4,627,000 gross tons, according to a cable to *Coal Age*, as compared with 4,598,000 tons for the previous week.

Some improvement is indicated in the British coal trade. Steam and gas coals especially are in better demand than for some weeks, and from 6d. to 1s. per ton increase is being obtained for the better qualities of steams.

Among the inquiries received in the North of England are 30,000 tons of gas and coking coals for autumn shipment to the Stockholm gasworks, 8,000 Wear specials for the Bordeaux gasworks, and one British gas company is in the market for around 500,000 tons. Up to 30s. is now the price of best gas coke and there is an appreciable market at that price. The Baltic and Holland are the most promising buyers.

Coal Paragraphs from Foreign Lands

ITALY—Cardiff steam first is now quoted at 36s. 6d., according to a cable to *Coal Age*, as compared with 36s. 3d. last week.

The Italian Government has issued an announcement covering the prices at which its surplus stocks of German coal may be purchased for industrial use. Westphalian and Silesian steam, gas, and furnace coal may be purchased for 150 lire per metric ton on board cars in transit or 165 lire f.o.b. Italian port. The sale price of Westphalian coke for metallurgical purposes is fixed at 230 lire on board cars in transit or 240 lire delivered at a port. Silesian coke, which can be shipped only by rail, will be sold at 220 lire on board cars in transit.

INDIA—The market is firm. Mills are purchasing and it is understood that more than 15,000 tons are in stock. The rates are: Bengal 1st., Rs. 36; English coal, Rs. 39; African coal, Rs. 34.

Hampton Roads Market Demoralized

The market was demoralized with prices soaring at Hampton Roads last week, with demand double the supply. Slight improvement in coal movement was noted on all roads, although surplus supplies did not increase to any appreciable extent. Export business dwindled to nothing.

Terminal facilities were in normal condition, but movement of coal from the mines continued interrupted. The prospect for improvement was said by coal men not to be bright. Schooners and barges, prepared to carry coal to Northern points, were lying idle in the harbor.

The price of coal, soaring as high as $11 per ton in some instances, reached the highest point since the peak of business in 1920.

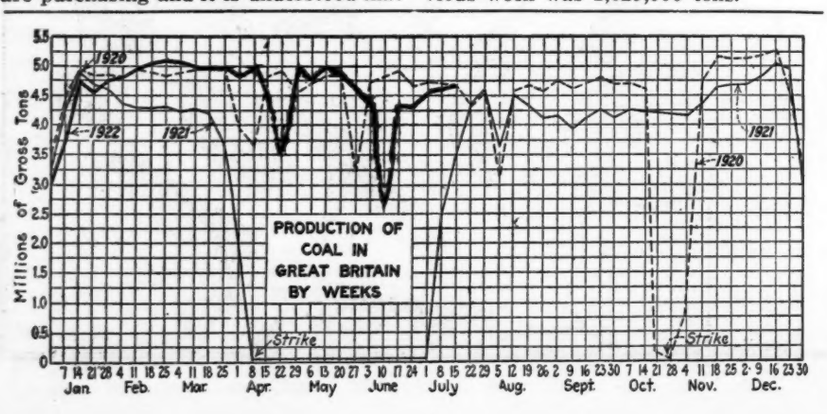
June Reparation Deliveries

Deliveries from Germany to France, on reparation account, in June were:

	Metric Tons
Coal	385,500
Coke	501,900
Briquets (lignite)	22,400

The importation of British coal into Germany has lately assumed larger proportions owing to the insufficient supplies of German coal and the great demand has already led to an increase in price. A number of works imported British coal with a view to exchanging it through the Coal Syndicate for coke allotted to the railways. Now the Reichskohlencommissar has ordered that imported coals be partly taken into account in making allotments of inland coal and this appears to have led already to a noticeable decrease in the demand for British coal.

Production in the Ruhr district during the week ended July 15 was 1,760,000 metric tons, according to a cable to *Coal Age*. The output in the previous week was 1,629,000 tons.



Hampton Roads Pier Situation

	Week Ended July 20	Week Ended July 27
N. & W. Piers, Lamberts Point:		
Cars on hand	567	600
Tons on hand	31,485	34,770
Tons dumped for week	194,896	111,026
Tonnage waiting	2,000	61,100
Virginian Ry. Piers, Sewalls Point:		
Cars on hand	1,053	745
Tons on hand	59,450	41,450
Tons dumped for week	107,710	111,620
Tonnage waiting	62,825	79,749
C&O Piers, Newport News:		
Cars on hand	555	637
Tons on hand	27,750	32,000
Tons dumped for week	94,833	66,977
Tonnage waiting	19,765	17,970

Slight Stimulus to French Demand

Slight reductions in prices July 1, to some extent stimulated demand but not sufficiently to improve the situation in the Nord and Pas-de-Calais.

It is hoped that an agreement between owners and men on a lengthening of the day's work underground will be reached soon and that no stoppage of work will take place at the end of the present agreement, on Aug. 25.

The price of German coke for French blast furnaces has been raised from 93 fr. per ton at the German frontier in July to 97 fr. in August.

The present price of Sarre run-of-mine, 50 per cent of lumps, is 63@68 fr. less a bounty of 3@5 fr. for summer delivery up to Sept. 30 and of 1@2 fr. for contracts.

FRENCH COAL PRODUCTION, IMPORTS AND EXPORTS IN MAY AND DURING THE FIRST FIVE MONTHS OF 1922

Coal	May, 1922 Metric Tons	January-May, 1922 Metric Tons
Production	2,595,391	13,009,716
Imports	2,058,448	9,506,506
Exports	180,824	490,465
Coke		
Production	82,131	385,335
Imports	521,630	2,000,672
Exports	18,734	190,790
Briquets		
Production	212,285	1,075,367
Imports	112,592	653,809
Exports	8,224	47,261

Pier and Bunker Prices, Gross Tons

	July 22	July 29†
PIERS		
Pool 11, New York	$10.00@$11.00	**$10.50@$11.50**
Pool 1, Hamp. Rds	7.00@ 9.00	**8.00@ 11.00**
Pools 5-6-7 Hamp. Rds.	7.00@ 9.00	**8.00@ 11.00**
Pool 2, Hamp. Rds.	7.00@ 9.00	**8.00@ 11.00**
BUNKERS		
Pool 11, New York	10.00@11.00	**10.50@11.50**
Pool 1, Hamp. Rds.	7.00@ 9.00	**8.00@11.00**
Pool 2, Hamp. Rds.	7.00@ 9.00	**8.00@11.00**
Welsh, Gibraltar	43s. f.o.b.	43s. f.o.b.
Welsh, Rio de Janeiro	57s. 6d. f.o.b.	57s. 6d. f.o.b.
Welsh, Lisbon	43s. f.o.b.	43s. f.o.b.
Welsh, La Plata	50s. f.o.b.	50s. f.o.b.
Welsh, Genoa	42s. t.i.b.	42s. t.i.b.
Welsh, Messina	39s. f.o.b.	39s. f.o.b.
Welsh, Algiers	38s. 6d. f.o.b.	38s. 6d. f.o.b.
Welsh, Pernambuco	65s. f.o.b.	65s. f.o.b.
Welsh, Bahia	65s. f.o.b.	65s. f.o.b.
Welsh, Madeira	42s. 6d. f.a.s.	42s. 6d. f.a.s.
Welsh, Teneriffe	40s. 6d. f.a.s.	40s. 6d. f.a.s.
Welsh, Malta	44s. 6d. f.o.b.	44s. 6d. f.o.b.
Welsh, Las Palmas	40s. 6d. f.a.s.	40s. 6d. f.a.s.
Welsh, Naples	38s. f.o.b.	38s. f.o.b.
Welsh, Rosario	52s. 6d. f.o.b.	52s. 6d. f.o.b.
Welsh, Singapore	55s. f.o.b.	55s. f.o.b.
Welsh, Constantinople	50s. f.o.b.	50s. f.o.b.
Port Said	49s. f.o.b.	49s. f.o.b.
Alexandria	43s. f.o.b.	43s. f.o.b.
Capetown	35s. 3d.	35s. 3d.

Current Quotations British Coal f.o.b. Port, Gross Tons

Foreign Quotations by Cable to Coal Age

Cardiff:	July 22	July 29†
Admiralty, Large	25s.	**29s. @ 30s.**
Steam, Smalls	18s.@18s.6d.	**17s.@21s.**
Newcastle:		
Best Steams	24s.@25s.	24s. @ 25s.
Best Gas	21s.6d.	**25s.**
Best Bunkers	22s.6d.@24s.	**23s.@25s.**

†Advances over previous week shown in **heavy type**: declines in *italics*.

North Atlantic

British Coal Now a Factor; Softening Tendency Seen

Uncertainty Exists as to Delivery—Price Decline Would Be Disturbing, as High Prices Were Paid for Foreign Fuel — Government Activity Calms Consumers.

BRITISH coal is becoming a factor at North Atlantic ports. Many orders were placed last week and more are in prospect, although much uncertainty exists as to the question of delivery. The market shows tendencies of softening and a price decline would soon place these shippers at a disadvantage as the tonnage now on the way from Great Britain was purchased at high prices. British coal was quoted at $10, New York Harbor, early in the week.

Governmental action in the coal crisis is having a soothing effect on consumers, and there is not the urgent rush for coal that was so apparent a week ago. Receipts are still very light, however, and spot tonnage is difficult to obtain.

CENTRAL PENNSYLVANIA

The Consolidation Coal Co. at Jerome, Somerset County, was the first company to resume operations under guard, the output amounting to an average of 10 carloads a day.

The commercial Coal Mining Co. at Twin Rocks, Cambria County, has asked for guards. The mines at Vintondale and Webster mine No. 10, at Gallitzin, also has resumed work under guard. Others are expected to follow. Car shortage cut down production, but this has been overcome.

Prices on the spot market rose rapidly and reached as high as $8.50, but little coal was sold at this price, as practically all that is mined in the district is sold under contract.

NEW YORK

The market was a trifle easier at the end of the week. There were many orders placed for British coal during the week although there was a wide range in quotations. Toward the end there was a softer market and exporters were wondering when they could expect deliveries. About fifty boats of the Shipping Board have been placed into service. Most of the orders had been booked for early August delivery and it was expected the first of these would arrive here about Aug. 10. Quotations at the end of the week were around $9, New York.

A new factor which may have its effect upon the receipt of British coal here is the attitude to be taken by the Longshoremen's Union which may refuse to handle it. The matter is now under advisement and the action taken by the men may not become known until the first cargo of British coal is in the harbor.

Southern coals are coming forward in good quantity, most of it already under contract. Several of the City Departments may run short of coal because of the strike and the failure of dealers to submit bids at the last opening, on July 18.

Quotations for unclassified Johnstown coals said to be of Pool 10 quality were around $8.25 at the end of the week, while coal said to be of Pool 11 quality was quoted at $7.25@$8.

PHILADELPHIA

The amount of coal coming here is much below that needed to replenish stockpiles, but despite this there have not been to date any notable shutdowns. Large users are active and have forced the small consumer to buy at $7.50@$9 per ton.

Sellers are not seeking any business at present prices, although willing to buy when given definite orders. Strong efforts are being made to hold prices in check, and for this reason many commission houses are idle. The bulk of current production is taken over by the railroads or going on contracts.

The P. R. R. is in strong operating condition and is moving all shipments offered promptly.

Quite a few houses unaccustomed to tide business have made foreign connections, and there is an increasing tonnage of British fuel being sold here for August delivery. On steam coal from Wales there have been offerings of $9 a ton, and high-volatile English gas coal at $8, all delivered at the piers.

BALTIMORE

Co-operating with the Federal Government plan of coal distribution, Governor Ritchie consented to name a coal commission for the state of Maryland, as a joint move by the chief executive and the Public Service Commission of the state. While the plans have not been definitely laid down it is probable that they will involve the sending of all requests for bituminous supplies through the Maryland Coal Commission, who will have the right to give priority on these requests.

Another duty of the Maryland Commission will be to see that coal reaches its proper destination and is unloaded within twenty-four hours in order to release cars.

Meanwhile there is no general break in the price at this point. The general run of quotations on any and all all-rail coal is still running $7@$7.50. During the present week there has been some little shipment of Somerset coal on this basis, but this movement has not been heavy and there has been practically no shipments here from other regions.

A considerable amount of English coal is now on the way to this port. The status of this English coal, in particular, is in question. Those coal men who engaged to bring it over here at a high price to themselves in order to give relief to the public should certainly be protected in its distribution so that they will be able to make a fair profit.

UPPER POTOMAC

Transportation difficulties are playing no part in holding back production in the Upper Potomac region, for the Western Maryland is placing all the cars needed and is moving coal at the rate of about 100 cars a day, giving this field an output of about 25,000 tons a week. Approximately 35 mines are operating in this territory.

FAIRMONT

General preparations were being made during the last week in July to resume operations at many of the mines idle since the beginning of the strike, provided it was possible to obtain military protection and transportation facilities were adequate. Even with only 160 mines operating cars are difficult to obtain, although there has been a slight improvement in transportation.

West

KANSAS CITY

Kansas mines are doing better than those of the surrounding states that are unionized and will be able to supply public institutions and utilities and also a large part of the steam coal requirements. Arkansas may be able to care for a part of the domestic requirements. Fuel oil is quite a factor in this section now at $1.65 per bbl. This makes it equivalent to steam coal at $4.95

The split among the miners in the Kansas field will also help. Their allegiance is about equally divided between Howat and Lewis. Howat's fight against the Kansas operators turns out to be in the best interests of these same operators. Most of the production in that field today is the direct result of this fight.

SALT LAKE CITY

Utah operators are receiving many large orders from interests outside the state. These are hard to fill. Local retailers are buying more than they have done for some time. There is nothing like a rush, however. Slack is becoming scarce, retailing at $4.50 with an additional 50 cents for the screened article. Other small grades, while not so scarce as slack, are hard to get.

There is no actual car shortage, but a little tightening of this service is noticeable. The strike situation is about the same. The national guard is still in charge.

DENVER

Demand is picking up noticeably with the approach of fall. Prices are not ascending, however, in spite of the fact that demand already has far exceeded the present capacity of the state's mines to produce. Gov. Shoup's ultimatum against high prices is effective. There is no sign of a public panic over coal because Colorado, with its mines running at between 70 and 80 per cent full, is "sitting prettier" than most other states.

Anthracite

Pea, Last of Family Sizes, Nearly Gone from Yards

Railroads Urge Its Conservation for Use Instead of Smaller Sizes—River Steam Coals Active—Abandon Hope of Hard-Coal Supply for Up Lakes—Place Orders for Fuel When Available.

PEA COAL—the last of the family sizes—is fast disappearing from the retail yards. Dealers are still ordering for replenishment but reserves at the mines are getting low and railroads are urging conservation of this coal for their use as a substitute for the smaller sizes. River steam coals are very active. Hope of getting an adequate supply of hard coal up the Lakes has about been given up.

Retailers are active in placing orders with their suppliers, for delivery when coal is again available. This process is being followed out also by the householder, and business on this basis constitutes the only life in the domestic anthracite market today.

NEW YORK

The pea coal supply is rapidly disappearing and with it the storage buckwheat. Some of the larger dealers have heavy tonnages of the latter on hand but the call for it is increasing. Consumers, realizing more than ever the seriousness of the situation are taking in pea coal to tide them over the cool days in case there is a delay in securing their regular supply of the larger coals. It was also announced that some of the railroads are using pea coal in place of buckwheat.

While no plan of distribution has been mapped out it is very apparent that when coal does begin to filter into this market the dealers are going to spread it as far as possible among their customers.

Some of the smaller operators have buckwheat stocked around their mining plants but owing to the attitude of the miners on strike are not having it loaded for shipment.

PHILADELPHIA

On account of the heavy undelivered tonnage the retail men are working hard to get in proper line with their shippers, and even with companies who have not heretofore had them on their books. The producers have been flooded the past week with requests that orders be entered for shipment at such time as the strike is ended. Many of the companies are accepting orders on this basis, although a few decline to take any action until coal is once more being mined; on the other hand at least one concern was soliciting business on this basis recently.

In the meantime the dealers are experiencing good business on pea coal, particularly those who were foresighted enough to lay in heavy additions to stock when the rush for this size developed during the past ten days.

Prices at retail still present a great variation, running as low as $9.75 by one chronic price cutter, after which there are quotations rising 25c. a time until the so-called standard price of $11 is reached, at which most sales are made. It can almost be said that the large sizes of coal are cleaned out of the yards, although there are a few exceptions where good stocks are still on hand and $15 is asked for stove and nut, as compared with the ordinary price of $14.25.

In the steam trade river barley remains the only available fuel, with the demand increasing from day to day. While some sales are being made at $2, most of this is for coal under order for some time, and the bulk of the business now is running between $2.50 and $3.

BUFFALO

There is a growing feeling of concern over the failure to take any visible steps toward getting the miners to work. At the same time the actual demand for coal is still light and probably will continue so till autumn sets in.

An effort is being made here to organize the anthracite interests, so that the distribution of what little there is left shall be to the best public advantage. Distributors generally refuse to deliver coal to anything less needy than hospitals. The small amount of steam sizes is fast going into the hands of steamboat men and others for special fuel. Hope of getting a supply to the upper lakes in the fall has about been given up.

BOSTON

The day approaches when retail dealers will be down practically to bare boards. The public still seems not greatly alarmed, but conditions, of course, grow steadily worse. Coke producers are sold up for six weeks to come and oil installations are increasingly hard to arrange for.

At wholesale there is little change. The supply of pea size is fast being depleted. The railroads are making every effort to have reserves on their lines saved for locomotive use.

BALTIMORE

Dealers are in entire accord with Governor Ritchie in the thought that they have the machinery to distribute fairly. In the pinches during the coal scarcity periods of the recent war times, they alloted coal on the half-ton, one-ton and two-ton basis, and kept everybody supplied. As it stands the yards are swept bare, except for a small quantity of pea, and a large majority of the homes are without supplies usually in bins at this season.

Coke

BUFFALO

The supply is now confined to the by-product plants, some of these in the Connellsville region. Purchases as high as $16 for foundry have been made, to which add $3.24 for freight to Buffalo. No beehive coke is offered. Some of the local byproduct plants will shut down in a few days unless a supply of coking coal is obtained. Iron ore is coming in at the rate of 50,000 tons or upwards a day by lake.

CONNELLSVILLE

Coke offerings in the open market have undoubtedly decreased considerably in the past 30 days. Reports of improvement in operations have referred chiefly to furnace ovens rather than to merchant ovens, and another factor, perhaps, is that several weeks ago one or two of the operators made contracts in foundry coke to the end of the year, involving coke that otherwise would have continued to come into the open market.

Practically all classes of consumers are now out of the Connellsville market, on account of price, except foundries, and even this demand is far below normal, partly because operations are lighter and partly because there are still stocks of some size. There was some stocking after the strike started, but at much lower than prices prevailing at the present time.

The market advanced about $1 in the week and is strong now at $14 for furnace and $15 for foundry. Byproduct ovens are running largely on stocks of coal, as shipments from West Virginia and Kentucky have almost stopped. Several plants have decreased production and not a few furnaces have been banked or blown out. A few byproduct plants still have stocks for 30 days' operation at their recent rate.

The *Courier* reports production in the Connellsville and Lower Connellsville region in the week ended July 22 at 56,580 tons by the furnace ovens, an increase of 4,280 tons, and 12,090 tons by the merchant ovens, an increase of 470 tons, making a total of 68,670 tons, an increase of 4,750 tons.

UNIONTOWN

The week has shown no change whatever in the strike situation itself in this region. The call by the Rainey interests for their striking employees to return to work was unproductive of results. Another company of state police has been detailed to this region but no national guardsmen are on strike duty and probably will not be unless some serious outbreak occurs.

Formal acceptance by the principal operators in this region of the Hoover price-control plan means a quick drop in the price of Connellsville coal from $8 to $3.50.

For the present the team track operators are out of business, the $3.50 figure not permitting them to operate profitably. However, Secretary Hoover indicated that where operating costs go above the sum the Washington committee reported, the administration may consider a higher price.

Chicago and Midwest

Buoyant Hopes Ascend As Market Goes "Flop"

A Certain Optimism Over Illinois Is Felt While Federal Control of Cars Drops Kentucky Prices—Full Car Supply Pleases Kentucky.

ALL through the midwest there were sighs of relief and the lessening of a great tension when the government's plan of controlling coal distribution—and incidentally, price—went into effect. Excitement over coal buying came to an end in the western Kentucky field. Buyers refused to pay any more sky figures for fuel, cars in both the eastern and western Kentucky fields began to appear in normal numbers for the first time in more than a month along the Louisville and Nashville with engines borrowed from many roads, and "normalcy" seemed much closer. At the same time, in Illinois, there began to spread a certain feeling of optimism regarding affairs in that state. "Something good is about to happen" was the sentiment among coal men who are usually first to hear of developments, and, all in all, the region went home over Sunday for a comfortable week-end.

The effect on coal prices of the events of last week was marked indeed. The "hooraw!" method of buying and selling coal was banished. The prospect of Hoover control of prices and the prospect of the railroads and big utilities getting all the coal they need for the time being withdrew those ardent coal purchasers from the market. The drop of western Kentucky coal resulted until the region closed the week Saturday noon with quotations at $8@$8.25 in Chicago, and a prospect of much coal before the middle of this week. Eastern Kentucky followed. The market came to a grand pause to see what was going to happen next.

The feeling of operators in the Kentucky fields was wholesome, however. Eastern Kentucky, almost to a man, was delighted at the prospect of getting a full car supply after a three weeks' period of much less than half that number of cars and many of the leaders among the western Kentucky men counseled the hot heads among their number to accept the Hoover plan with good grace because it would be more profitable in the long run for them to sell a maximum output at $3.50 than to sell one day's output a week at $10. Further, it was easily seen, any operator who chose to fight the government control of cars probably would find his case dragging in the courts long after the present ravenous demand had passed.

ST. LOUIS

This market exhibited the same general response as the rest of the Midwest region to the government's new effort to control the distribution and price of coal. Quotations broke sharply at the end of last week, although practically all available coal is gone and even coke is cleaned up. On Monday and Tuesday prices reached their peak.

Then came the St. Louis meeting in which Frank Farrington, Illinois miners' president, called his state convention and gave great hopes for a resumption of mining. The market then started its drop. By the time Farrington had canceled his convention call the Washington plan was known and in the public hope of immediate $3.50 Kentucky coal, sky prices sank.

There is a persistent feeling of optimism in the coal trade. Confidence is strong enough that "something is going to happen" so that gloom is somewhat dispelled even though there seems little likelihood of much free coal becoming available to this market from the Kentucky and Eastern fields.

SOUTHERN ILLINOIS

Calm still prevails though it is evident, here and there, that a good deal of propaganda work is being done by the Farrington and Lewis factions within the United Mine Workers to strengthen those two main divisions. The spirit of the union—and its community influence—was shown last week when a meeting of all sorts of citizens in Williamson County was held to protest violently against any program of operating mines there under guard.

There are evidences at some of the mines that the operators are getting ready for a resumption of work. This is especially true of the Peabody group.

WESTERN KENTUCKY

The end of the "wild time" came at the close of last week, bringing a distinct feeling of relief to many an operator in spite of the sharp drop in the market. Some are angered by the new government p'an of controlling price by car distribution, but the assurance of a car supply looks better to most men than a battle in the courts.

The softening of railroad congestion along the L. & N. lines is viewed most hopefully. Railroad conditions generally throughout this end of the state are improving, with a consequent uplift of spirits in the coal fields. "Full car supply" are words that sound as good to many an operator as "ten dollar coal." There is a good prospect now of full-time operation, even if practically all of the output for the next three or four weeks must sell at $3.50, the average operator will be well off and happy over it.

CHICAGO

The bottom began falling out of the western Kentucky market here early in the week when the government plan for car control and the loan of motive power between railroads was announced. Buyers withdrew, railroads and utilities felt reasonably assured they were going to get coal at $3.50 within a few days, and trading arrived, by the end of last week, at a standstill. Western Kentucky had declined from $11.50 to $8 in four days and other coals on this market were drawn down too. What little eastern Kentucky the traders here could get sold readily enough at the same level as the other. Smokeless was practically unobtainable.

The great activity now, on the part of coal men, is to get priority from the control board for orders they have taken. A stampede by mail, by wire and by personal solicitation toward one or another member of the board started as soon as appointments were announced. The trade here expects there will be little free coal on the market for two or three weeks unless—and there is much whispering over this point—Illinois should start operating mines under martial law.

LOUISVILLE

The hectic excitement appears to be over, at least for the time being. Last week's peak prices have disappeared, the flush mob of buyers waving fists full of currency in the faces of operators is no longer a mob but merely a calm and scattered little group. And in the readjustment, compelled partly by the new government plan of controlling distribution and partly by the hesitancy of buyers to take any coal at flighty prices when a new low level is in sight, the market has subsided markedly.

Both western and eastern Kentucky coal slid downward to a level of about $7 by the end of last week. Most of that which was traded was coal already rolling. With the railroads getting their new priority rights over all others, industrial buyers appeared to believe coal not already in transit could never be delivered to them. So they merely picked up what they thought to be almost the last free coal to be available for some time, and took it only on a swiftly declining market.

Canada

MONTREAL

Welsh coal is en route to Montreal to meet the fuel shortage. A cargo of 2,400 tons of anthracite left Cardiff recently on the S. S. Lord Londonderry, consigned to L. Cohen & Son, and will be distributed to householders at $17 @$18 per ton.

Two cargoes of steam coal also are on the water, consigned to the F. P. Weaver Coal Co., Ltd. One cargo is for a large Montreal manufacturing company, and the other will be used to meet smaller orders.

Local dealers state that in the face of a coal shortage in the Province of Quebec estimated at 300,000 tons they are confident that means will be found to furnish Montreal with sufficient coal during the coming winter. Their general counsel is that the average householder would do well to try to obtain about 25 per cent of his winter's supply, as they feel fairly certain that normal production in the Pennsylvania anthracite region will have been resumed before two months of the winter season are past.

Eastern Inland

Non-Union Receipts Low; Industries Not Pinched Yet

Inquiries Increase in Volume—Anxiety Felt About Future Supply—Belief That Price Will Be Fixed Holds Down Quotations—Northwest Situation Grows Perilous.

INQUIRIES for fuel are increasing daily, but as yet industry has not been seriously affected by a coal shortage. Receipts of bituminous coal from the non-union fields, however, are the lowest in years and anxiety is felt in all sections about the future supply. The expectation of consumers that a fixed price will soon be established has held the market from a continuance of last week's soaring prices. Spot coal is difficult to obtain, but the trade is not taking advantage of the situation by boosting prices further.

Car and coal shortages have lowered the Lake dumpings. The needs of the Northwest are fast becoming urgent and a few weeks more delay will spell a certain coal famine for that section next winter.

CLEVELAND

Domestic demand for coal in the Cleveland district is showing considerable strength. If it were possible for retail dealers to obtain coal, business in the fuel line could be maintained at a rate materially above that ordinarily prevailing at this season. Strike conditions, of course, have helped to strengthen the present demand. Some hope is seen by coal dealers and jobbers here in the priority orders issued by the Interstate Commerce Commission. It is believed that movement of loaded coal cars through the clogged Cincinnati and Columbus gateways will be speeded by this action.

The Chesapeake & Ohio and other railroads operating in Ohio report their sidings blocked with coal cars in Cincinnati and Columbus, while the Big Four yards are comparatively free. Belief is that through the enforcement of the priority orders much of this load will be shifted to the Big Four. This probably will expede shipments of Southern coal.

An especially strong domestic demand exists here for Pocahontas and other West Virginia coals. Stocks in the retail yards are getting extremely low. One large jobber and retailer states that its orders are being filled from stocks of coal which have been left over. Pocahontas shoveled lump is being quoted at $9.50 a ton, and forked Pocahontas lump is being sold for $11 a ton, delivered. It is reported that the Cleveland Electric Illuminating Co. has just purchased 100 carloads of coal from mines around Pittsburgh which are now producing or are about to produce coal.

COLUMBUS

Just prior to the issuance of priorities there was a hurry to get under cover by consumers not in the favored list. Buying was wild and prices ranged from the federal levels to as high as $9.50. It was not so much a question of price as of the ability of operators and jobbers to deliver the coal promptly.

Anxiety is felt in all localities about future fuel supply, as many manufacturers have low reserves. Public utilities and railroads are in a safe position, but other industries have been scurrying around.

The lake trade shows a still further decline owing to car shortage and transportation disability. During the week ending July 26 the H. V. Docks loaded 48,013 tons, as compared with 57,354 tons the previous week. The total handled by these docks to date is 1,503,705 tons. Up to July 23 of last year these docks had loaded 2,238,170 tons.

PITTSBURGH

Operators state that miners went into four mines in the Pittsburgh district on July 27—Montour No. 4, Henderson No. 2, Atlas and Wilson, all in Washington County—while officials of District No. 5, U.M.W., assert that no coal has been produced at these mines.

The priority order for coal has not affected coal movement in this district thus far. The P. R. R. and the P. & L. E. roads announce that as they are operating at 100 per cent efficiency there is no occasion for them to modify their practice. The relatively small amount of Pittsburgh district coal available, and that from strippings, has been reduced by timidity of the workmen, and trading has been practically confined to Connellsville coal.

There was excited buying up to July 26, with the price advancing until the market was rather firm at $8.50 for steam grade. Then buying began to taper off, consumers expecting a fixed price, much lower, to be established soon. By the end of the week the market had become quiet, with the price down to $7.50. Buyers seem to expect that the set price will be $3.75 for lump, $3.50 for mine-run and $3.25 for slack, but Connellsville operators have already indicated an expectation of being able to obtain $1 more.

EASTERN OHIO

Persistent rumors that a joint conference of operators and miners of a part of the old Four-State field is to be held in Cleveland soon has given renewed hope to the eastern Ohio coal trade that a coal shortage may be averted by the early resumption of mining.

Inquiries for fuel are increasing daily but there has been no appreciable interruption to industry because of fuel scarcity. The volume of non-union coal reaching this section is the lowest in years. Spot prices have stiffened materially during the past week, the range on any coal obtainable being from $8@$9 per ton.

The Wheeling and Lake Erie Ry. is taking coal pro rata from each mine in accordance with the I. C. C. priority orders.

Several blast furnaces in the Youngstown district were banked during the week because of fuel shortage. The Toronto (Ohio) plant of Follansbee Bros. Sheet and Tin Plate Company is reported to be closing this week because of lack of coal. A strip mine near Steubenville where the workers quit because of intimidation on the part of union miners had been supplying coal to this plant.

DETROIT

Efforts to relieve the dangerous condition confronting Detroit as a result of rapidly diminishing coal supply are being made by a special fuel committee appointed by Detroit Board of Commerce.

Prices on bituminous at the mines have advanced to $8 and $10 per net ton, though jobbers say producing companies whose coal was sold ahead are filing such orders on the Hoover price basis or in some instances at a lower cost to the buyer where coal is available for shipment.

Neither steam nor domestic coal buyers are purchasing coal except when necessary to meet current requirements, the present high cost, in their opinion, making it undesirable to stock up at this time. Retailers fear they would be accused of profiteering in attempting to deliver such costly coal to their customers, while the steam plants do not see their way clear to absorb the high cost in the selling prices of their products.

NORTHERN PANHANDLE

The trouble at Cliftonville on July 17 has not affected production at other mines but the output of the field as a whole had been reduced approximately 20,000 tons a week owing to congestion on the railroads. There is a strong demand for fuel in all markets with prices steadily on the upgrade. The demand at the lakes is particularly strong.

BUFFALO

The situation turns on the soaring price of coal, caused by delay in getting miners to go back to work. They have been able to get enough outside work to keep them in money and they want the shortage of coal to continue, for that shows what their hold on the situation is.

Car shortage caused by the shopmen's strike is causing most difficulty now. It is said that there is coal enough stranded in cars on the Baltimore & Ohio lines alone, bound mostly to the lake region, to supply everybody. Mine owners in that territory report to Buffalo buyers of their coal that it is on track, but there is no motive power to move it.

As a rule the consumers have coal, but many are getting uneasy and bid up for it. Most of the sales are at $8@$9 at the mines, but sales have been made above $9. A little gas coal is offered here on track at $9 by a dealer who says he paid $8.50 for it.

Northwest

Helpless But Composed Northwest Faces Future

Stocks Exhausted, It Cannot Help End Strike Which Victimizes It—Holds Prices to Slow Rise—Industries Share Their Fuel Piles.

AROUND the Upper Lakes industries and small consumers alike face a shivery situation. Nobody is absolutely certain that the government will be able to direct much coal to that region. Its stocks are about gone, the docks are practically empty of free coal and almost no shipments are arriving.

The only thing the Northwest can do, helpless as it is to play a hand in the settlement of the mine strike, is conserve what coal it has. This it is doing by various means including a general movement in which several "wise" industries are sharing their fuel with "foolish" but necessary plants. Prices are steadily rising in the face of this shortage, but the rise is not uncontrolled. The Northwest is keeping its head.

MINNEAPOLIS

The Northwest is in the desperate plight of being unable to do anything to help settle the coal strike. Neither miners nor operators are in intimate contact with this district, and there is no influence which could be brought to bear direct. Belated investigations, surveys and inquiries under way in different directions can collect information, but no fuel. They will be valuable in assuring the consumers of the exact status of things, so that there need be no worse alarm than the cold facts justify and they will aid materially in the equitable distribution of such coal as may be obtained.

As a result of the frequent reports of the desperate condition of things, people are approaching a panic. Premium prices could be readily obtained for prompt delivery, but profiteering is discouraged. Retail prices of prepared sized coke, heretofore selling at $14 in these cities, have been advanced to $15. The coking plant managers claim that the advance is still low and the coke is worth considerably more than this figure. Coke will have to be used rather freely as a substitute for anthracite. The needs of the Northwest are for from 1,000,000 to 1,250,000 tons for the winter. The quantity on the docks, including everything down to anthracite dust, is less than 250,000 tons. The desirable sizes are nearly exhausted. The tonnage needed is not so large and could readily be handled in the period remaining before the close of navigation. But when resumption of mining comes, it will come with the immediate urgent demand from all sections for coal, and the Northwest will hardly have much chance for more than a minimum share. The soft coal requirements, while several times as large, have so many more sources to draw from, that they do not seem as desperate.

DULUTH

The situation here has become acute. Business as a whole is on tenter hooks. The most accurate estimates available place free stocks of coal here at but 100,000 tons and some of this is available only to regular customers. Only five out of the twenty-three companies at the Head of the Lakes are taking business.

The condition of anthracite is similar. There is none to be had in Duluth or Superior except a small quantity of egg. Dealers are taking orders for delivery when they get the coal, and it seems probable that many householders, who have not filled their bins, will pass a cold winter. Customers who contracted for large amounts some time ago are now actively moving this.

Companies are inducing concerns which laid in their stocks early to divide with less foresighted neighbors. This move is meeting with some success among public utilities. It is increasingly hard to keep the boats of the smaller independent lake steamer companies going. Bunker coal is scarce, at $8.50—an advance of $2.50 in two weeks. Bituminous prices generally are up 50c. over last week.

MILWAUKEE

Like all other cities, Milwaukee is in the throes of coal agitation. A canvass of the receiving yards reveals the fact that the only hard coal available at this time is a limited quantity of pea and buckwheat. Dealers are refusing orders for soft coal for winter use in homes, conserving it for industries. They hold that supplies for boilers and furnaces in apartments and houses can be obtained later.

Most industries supplied by this market use Eastern screenings. Pocahontas can be had without trouble. Much of the coal on the docks at present is being held to fill contracts. One dealer is delivering on contract for $5 per ton, which cost him $9.75, and others have similar experiences. There is no tendency at present to advance prices yet.

Receipts by Lake are about at a standstill, due to the growing scarcity of cargoes at lower ports, and also to the high price of bunkers, which makes the operation of steamers unprofitable. Only two cargoes, aggregating 10,000 tons, were received last week, making the total receipts of soft coal 740,960 tons against 1,497,993 tons during the same period last year. Last year the hard coal receipts to date aggregated 493,708 tons. No hard coal has been received this year. These figures do not take into account receipts of coal by car-ferry, which mainly go through the port to their destinations.

New England

Threatened Coal Shortage Has Become a Reality

Double Strike Curtails Output in Pocahontas and New River—Contract as Well as Spot Product Cut Down—Priorities Will Further Embarrass Ordinary User.

DEVELOPMENTS are so rapid that each day's news is history by nightfall. The strikes have so seriously affected the output in the non-union fields, notably in Pocahontas and parts of the New River district, that the threatened shortage of a fortnight is now a reality. Few of the agencies have coal in any quantity at Hampton Roads and the great bulk of contract coal has been effectually cut off. Railroad priorities are expected further to curtail the supply for normal uses, and the trade is wondering precisely what is to befall.

Sundry high quotations are reported, but the quantity of coal changing hands must be very small; $9, f.o.b. vessel has been rumored, and very likely will be much exceeded within a few days.

The transactions at the Roads have been of small tonnage for clearance purposes. High figures are also rumored on cars Boston, but in most cases rehandlers have little or none to spare.

The natural tendency here of both buyers and sellers is to stand pat for the present. Factors who ordinarily have cargoes regularly arriving are now suffering a dearth of supply and on that account are trying hard to keep what they have. Some are closely interested in British coal and there is active canvassing now for orders against cargoes due to arrive early in August. So far the prices heard are around $9.50 on cars Boston and Portland.

At Hampton Roads the wholesale cancellation of charters because of the lack of coal at the piers has resulted in an accumulation of bottoms. To an extent coastwise freights are easy at 85c.@90c. to Boston, but takers are quite as scarce as coal.

The few desirable grades available from central Pennsylvania are also commanding what would very recently have been considered high figures; $7@$7.25 per gross ton has been rumored on Cambria coals, especially when available at New York piers. Screened gas coal has been quoted up to $9.50.

Cincinnati Gateway

Price Situation Upset in Belated Housecleaning

Less Favored Industries Bid Feverishly for Available Tonnage—Small Mines Insist on Top Price, Leaving Little for Jobbers and Wholesalers.

PRICE conditions for the past week have been badly distorted. As the government was about to step in there was a belated attempt at housecleaning and all firms that had car numbers on spot coal were disposing of them to the highest bidder. This, however, did not mean any wide range of profit to jobbers and wholesalers, for most of the coal was coming from small mines that exacted the last penny that buyers would pay. Industries placed low in the priority list were all caught in the rush for coal and with a prospect of waiting for a month for a new supply were disposed to pay any price asked.

Clarification of the situation was promised through the arrangement effected under Secretary Hoover at the Washington conferences. The Cincinnati trade has been disposed to stay within bounds and did so until forced into higher prices by the operators who had free coal and wanted the top of the market. Whatever arrangement is made in Washington will be followed here.

CINCINNATI

Lake business has been begging for coal for the past week and where tonnage was necessary to fill cargoes partially made up on contract stuff the high price of the market was paid. During the past few days—since it was shown that the government intended to take a hand—both the lake and the steel people have disappeared as buyers, though the railroads remained actively in the market until the last minute.

The railway situation seems much better at this writing. The Norfolk & Western worked 800 cars across the scales at Portsmouth in one day, as against 1,600 cars normal. Russell Ky. and the C. & O. scales there also report improvement. Movement of L. & N. coal likewise is better.

The local retail situation is unchanged. Prices that were established the first of the month still hold. An abortive attempt to advance the price of high-volatile and smokeless domestic was frowned upon and those who put the prices up the latter part of last week had to get back in the traces.

Blocks of twenty and thirty cars that had passed the scales or were in transit, fetched the highest price, that about $9. Any sizing of southeastern Kentucky coal that had been started to market was worth $8.50.

HIGH-VOLATILE FIELDS

Kanawha

The effort of mines formerly in the union category to produce coal has been materially checked in this field owing to the growing inability of the carriers to keep the mines supplied with cars. Nevertheless about half the mines in this region are attempting to operate at least part of the time, and operators, acting as a unit, have declared their intention of opening the mines throughout the field in response to the President's invitation, provided transportation facilities are furnished to move the output. Prices offered for coal range all the way from $4 to $7 and $8 a ton. Producers as a rule, however, are shipping to their regular customers at the Hoover prices. The lake demand is unusually strong and inquiries are heavy from Western markets. At the same time Eastern buyers are also seeking large tonnages.

Logan and Thacker

A car shortage is making heavy inroads on production in the Kenova Thacker district. Because of congestion on the Norfolk & Western mines are operating only three or four days a week. A strike of Norfolk & Western clerks has tended to make matters worse. Buyers are bidding as high as $5 and $6 a ton.

Not more than half the production possible during June is being reached in the Logan district owing to the difficulty being experienced in moving coal. Because of the conditions described the Logan output has been reduced from 360,000 tons a week or more to 180,000 tons, with mines not running more than half time. The whole situation in this district now hinges on the transportation situation.

Northeastern Kentucky

Mines are being crippled by generally inadequate transportation facilities, which has curtailed production to 55,000 tons a week or just about 43 per cent of capacity. The demand is unusually heavy. Crippled transportation facilities are holding back movement to the lake.

LOW-VOLATILE FIELDS

New River and the Gulf

New River production would be virtually normal but for the rail strike, but the output is materially curtailed and much difficulty is experienced in moving it, as a result of the growing congestion on line. Unable to obtain empties regularly, mines are not working more than half time. As far as the coal strike is concerned that is no longer a serious factor. The market is extremely active and prices are soaring, although producers as a rule are not quoting above the Hoover price maximums. Consumers are willing to pay $5 and more a ton.

Production in the Winding Gulf region has been reduced to about 60 per cent of potential capacity by the rail strike. The demand is unusually heavy but can be met only to a limited extent since production has been reduced to between 100,000 and 120,000 tons a week. The scarcity of fuel is forcing prices up despite the fact that most producers are not quoting above the Hoover maximum.

Pocahontas and Tug River

Losses in production in the Pocahontas region as a result of the rail strike are greatly outstripping outputs. Against a total production of about 250,000 tons a week, the shortage of cars and general railroad disabilities are causing a weekly loss now of about 320,000 tons. The strike of clerks on the Norfolk & Western late in the month tended to make matters worse. Mines are not working more than three days a week. The movement of coal both to Tidewater and Western markets is extremely slow, with customers clamoring for delivery.

Tug River production, too, is falling behind, as a result of the rail strike. The N. & W. is doing the best it can to keep coal moving to markets, but connecting lines are experiencing difficulty in handling loads and getting empties to the N. & W.

South

BIRMINGHAM

The local market reached peak demand during the latter part of last week. Brokers and agents were deluged with inquiries from every quarter and numerous representatives of industrial interests and foreign brokers were in the field buying up everything in sight. Prices for spot coal soared rapidly, ranging $4@$6 per net ton mines for mine-run or washed, without particular attention to grade.

The strain has now eased off to some extent though the market is still strong and active, with demand in excess of supply. The sales agencies of the larger producers have no surplus and the spot supply comes principally from the smaller mines which have done no contracting and from operations which have temporarily resumed to participate in the active market. Coal of good quality for steam use is still available on twelve-month contracts at $2.25@$2.75 per ton mines. The output of domestic sizes is pretty closely sold up and spot coal is hard to find, quotations at present being in line with the figures on mine-run and other steam sizes.

Production is at the peak in so far as the car supply and transportation service will permit; the latter is improving.

VIRGINIA

Handicapped by a shortage of cars, mines in southwest Virginia are unable to produce as much coal as they did during June, the loss from a car shortage amounting to almost 100,000 tons a week during the latter part of the month, reducing the output of this territory to about 64 per cent of capacity. The car shortage is being most severely felt on the Interstate Railroad and the Norfolk & Western. On the C. C. & O. production is being maintained at nearly 90 per cent.

News Items From Field and Trade

CONNECTICUT

Fire recently damaged a portion of the coal yards on Steamboat Road, Greenwich, belonging to the **Maher Brothers Corporation**, coal and lumber dealers. The loss is estimated at $10,000.

ILLINOIS

W. R. Kernohan, district sales manager at Chicago for Cosgrove & Co., with fourteen men from his territory attended the company's annual conference of sales and operating men at Johnstown, Pa., July 24 to 27.

E. R. Keeler, sales manager of the Taylor Coal Co., Chicago, has returned from a trip into the northern Great Lakes country.

Ridgely Rhea, formerly Chicago sales manager for the Deep Vein Coal Co., of Indiana, has joined the Sterling-Midland Coal Co., a Chicago wholesale concern. The new Chicago manager for the Deep Vein Co. is Emmett P. Lowery, from the Indianapolis office of the company.

INDIANA

The non-union wagon coal mine a few miles east of Evansville, which was visited a short time ago by a body of masked men who damaged some machinery at the mine, will be reopened ,according to a statement of Bourke Samples, operator of the mine. Guards have been employed to watch the mine.

The City Coal Co., Jasonville, Ind., has contracted with Krehbiel Company, Chicago, Ill., for the tipple equipment for its new mine near Sullivan, Ind. The equipment includes a Jacobsen horizontal screen with a loading boom for the railroad coal and a separate screen for preparing local trade coal.

KANSAS

A. H. French has resigned as district sales manager for the Midland Coal Co. at Pittsburg, Kan., to become general manager of the Jefferson Highway, a New Orleans to Winnipeg road route, effective Aug. 1. **G. W. Rice,** who has represented the Midland in Miami, Okla., takes Mr. French's place in its organization.

E. D. Stone, claim agent for the Western Coal & Mining Co. at Pittsburg, Kan., for ten years, has been promoted to general sales manager, with headquarters in Kansas City, Mo. He succeeds **George J. L. Wulff,** who became president of the company soon after the death of W. P. Hawkins, of St. Louis, several months ago. **Holmes Wager,** for a number of years cashier, becomes general claim agent at Pittsburg.

Ernest Hamilton, dinky engineer for the Ellsworth Coal Co., at Minden, Mo., has applied for a patent on a steam engine, the model for which he spent eight years in developing. He asserts that his engine develops more power with less bulk and fewer working parts than any other on the market. The chief advantage he claims for it, however, is that it is foolproof.

KENTUCKY

Recent incorporations in Kentucky include the following coal companies: **Boone-Jellico Coal Co.,** Pineville, capital $50,000, by J. A. Emslie, F. M. McDermott, Wheeler Boone, James Henderson, J. A. Phillips, A. G. Patterson, G. M. Patterson, M. J. Moss, Jr., and R. B. Moss. **Frost Coal Co.,** Wilton, $10,000, by Charles Frost, John Frost and H. A. Steele. **Coperas Cave Coal Co.,** Beattyville, $10,000; Thomas Porter, William Porter and Logan Thomas. **East Point Block Coal Co.,** Auxier, $2,000; J. F. Auxier, N. C. Auxier and Paris Bowling.

The Millers Creek Kentucky Mining Co., headed by R. W. Brunk, is installing an aerial tram across Big Sandy River at Auxier, and doing development work preparatory to producing as soon as the tram is completed.

Coal production in Letcher County Kentucky has been decreased 50 per cent on account of the railroad strike, according to various estimates. The unemployment situation is reported to be serious.

The Prestonsburg Coal Co. has moved a large part of the equipment from the worked out mine near Prestonsburg to its new operation on Bull Creek, Floyd County. A Morrow shaking screen and loading boom tipple and about two miles of railroad spur from C. & O. have recently been completed.

MINNESOTA

E. E. Heiner, president of the Superior Coal and Dock Co., visited Duluth-Superior harbor recently to inspect the improvements on the company's dock here. A 10-ton bridge and a new screening plant have just been installed. The capacity of the two is about 600 tons an hour.

E. W. Johnson has become manager of the St. Paul Coal Co. He was for twelve years with the People's Coal & Ice Co., of St. Paul, being vice-president when he left that company.

The City Council of Minneapolis has asked the City Attorney for an opinion as to whether the city may engage in the fuel business. This is based upon a court decision which held that the city of Waseca, Minn., could engage in a municipal fuel enterprise.

MISSOURI

The Hawk Point Mining Co., has been incorporated at St. Louis, Mo., to sell coal at wholesale and retail, to mine and operate coal mines and do a general coal and mining business. The company has a capital of $2,500, the shareholders being Ben Kolbenschlag, L. H. Richert and G. W. Reid.

A movement is reported to be on foot in St. Louis, Mo., to combine most of the retail coal yards of the city into one huge corporation backed by New York and Chicago capital. Already options are said to have been taken on a number of yards and it is said the plan includes the purchase of about fifty yards now owned by ten or more of the principal retail companies of the city.

The Kirksville Coal Co., of Kirksville, Mo., has started the work of opening the new shaft at the Rye Creek mine, and development work will go forward rapidly. An agreement has been reached with the United Mine Workers of America whereby a local union will be formed for the new mine and development work will continue to a point of actually selling coal even if the coal strike is not settled by the time that stage is reached. The new shaft is about 100 yards from the old shaft, which will be used as an airshaft. Members of the firm of Hoff & Co., of Des Moines, Iowa, which is financing the project, will come to Kirksville at once to oversee the work and complete the legal and financial arrangements. The Commercial Club of Kirksville has been appealed to for assistance in getting the needed train service to carry the men to and from work and help solve the housing problem that will come up when the new mine is in operation.

The Columbia Collieries Co., St. Louis, Mo., is installing a steel tipple equipped with a Jacobsen horizontal balanced screen and a Krehbiel Co. loading boom at its mine at Winkle, Ill.

OHIO

The Alcorn-Hahn Supply Co., Youngstown, has been chartered with a capital of $50,000 to do a general retail business in coal and coke. Incorporators are Joseph L. Acorn, Dale R. Nolan, Charles S. Braun, Arman J. McFarland and Sarah J. Alcorn.

The Murphy Coal Co., Columbus, has been chartered with a capital of $75,000 to do mining in both Ohio and West Virginia. Incorporators are Edward F. McNamigal. H. H. Long, G. K. Mitchell, E. H. Davis and E. H. Margrand.

The V. V. Coal, Gravel & Transport Co., Zanesville, has been incorporated with a capital of $100,000 to retail coal among other things. The incorporators are J. O. Sloan, W. L. Jamison, J. N. Vernon, R. H. Valentine and J. MacVernon. Messrs. Sloan and Jamison reside in Columbus, while R. H. Valentine is a resident of Marietta. The others live in Zanesville.

The Ford Williams Coal Co., Wadsworth, has been chartered with a capital of $40,000 to mine and sell coal by Ford Wiliams, Charles W. Williams and others.

The Ivanhoe-Elkhorn Coal Co., Portsmouth, has been chartered with a capital of $50,000 to mine and sell coal by B. F. Vincent, H. C. Stalter and others.

Recent visitors from the coal fields to the Cincinnati market were: **R. M. Tudor,** manager of the Supreme Elkhorn Coal Co., Allen, Ky.; **L .Vaughan,** of the Draper Eagle Coal Co., Logan County; **Abner Lunsford,** of the Banner Fork Coal Co., of Kentenia, Ky.; **R. Kilburne,** of Coal River Collieries Co., Prestonburg, Ky.; **J. O. Watson,** of Fairmont; **B. Baldwin,** of the Central States Coal Co., Graham, W. Va., and **R. R. Hooper,** of the Merrill Coal mines of Lawson, W. Va.

The Big Mountain Coal Co., recently formed to operate a jobbing concern has been re-organized by P. A. Coen and the capital has been increased to $50,000. New officers are P. A. Coen, president; S. C. Sharp, vice-president, and C. H. Austin, secretary.

PENNSYLVANIA

The following charters were recently granted at the State Department, Harrisburg: **Huether Coal Co.,** mining and preparing coal for the market, Hastings; capital, $30,000; A. B. Clark, treasurer, Hastings. Incorporators, H. J. Huether, B. A. Lantzy and A. B. Clark, Hastings. **Adelaide Coal Co.,** Connellsville, $5,000; Philip Galiardi, Connellsville, treasurer. Incorporators, G. Corrado, Philip Galiardi and R. Galiardi, Connellsville. **Johnstown & Somerset Coal Mining Co.,** Johnstown, $24,000; Gordon C. Hutchison, 387 Somerset Street, Johnstown; Harry H. Gardner, Gordon C. Hutchison and J. L. Penny, Johnstown.

On page 156, *Coal Age*, issue of July 27, it was stated that the Bachman mine, in the New River Field, is again under the control of the Maryland New River Coal Co., former owners. This statement is in error. The property has never been abandoned, and is now being operated by the owners, the Atlantic Coal & Iron Co.

The Valley Camp Coal Co. has been supplying the City of Pittsburgh, under contract, with coal to run its pumping stations, etc., during the strike period. For this purpose union miners were employed to get out approximately 300 tons of coal per day from one of the company's mines. On the advent of state troops at the mine these miners refused to work. The company, represented by Harry Kinloch, signed a contract with the City of Pittsburgh as a second party whereby coal was to be mined from the Mayview mine, owned by the city, the company paying a royalty of 15c. per ton to the owner and using union miners. It may be interesting to note that representatives of District No. 5 of the United Mine Workers of America gave their approval.

UTAH

W. H. Wattis, of Ogden, well known for his interests in coal mines of the state and other large industrial projects, is a candidate for the Republican nomination for the Senate during next election.

J. M. Smout has bought the interests of J. W. Smith in the Brigham City Coal Co., Brigham City.

The Lion Coal Co.'s retail yards at Ogden have been acquired by a company that will be known as the Ellis Fuel Co. Wallace Ellis will be general manager. Officials of the Lion company, whose mines in Wyoming and Utah produce about half a million tons of coal annually, said they had decided to confine their efforts to the production and wholesale distribution of coal. At one time they operated a chain of twenty-three retail stores.

The Utah Coal & Coke Co. has made application for the diversion of water from the MacVichie Spring, in Carbon County, for the purpose of supplying a mining camp, which the company proposes to build a few miles north of Sunnyside.

The Industrial Commission of Utah has changed the base rate for workmen's compensation insurance in underground coal mining from $2.30 to $2.60

WEST VIRGINIA

Operations are to be conducted upon a fairly large scale, according to the present plans of the **Springdale Coal Co.**, which has just been organized and chartered with a capital stock of $300,000. This company will engage in the coal business in Fayette County, near Springdale, headquarters to be at Morganette. Leading figures in this concern are: Annie Coombs, C. M. Lilly, C. A. Hawley, C. O. Dunn and E. L. Ellison, all of Beckley.

The Vestor Coal Co. has been formed by Morgantown people with a capital stock of $25,000, offices to be at Huntington. Leading figures are Richard A. Poland, Hudson Chaney, Vista Mullon, Mott Flaherty and Ralph Chaney, all of Morgantown.

Organization of the **Guyan Valley Fuel Co.** presages the development of coal property in the Logan field on a small scale, this company being capitalized at $25,000. Its headquarters will be at Huntington. Identified with the new concern are: A. D. Callihan, P. M. Stone, of Crown; J. D. Callihan, Dixon Callihan and E. G. Prindle of Huntington.

Walter R. Thurmond, president of the Logan Coal Operators' Association and also president of several large coal companies in the Logan district spent a few days in Washington during the latter part of June with a view to securing a better car supply if possible for the Logan region.

E. W. Ziler, sales manager of the West Virginia Coal & Coke Co., was a visitor in southern West Virginia recently.

C. H. Jenkins, of Fairmont, secretary treasurer of the Northern West Virginia Coal Operators' Association was a visitor in Washington early in July.

Thomas W. Arnette, of Fairmont, president of the Antler Coal Co., has gone to Denver, where he will spend about two months for the benefit of his health.

William K. Hatfield, of Morgantown, general manager of the Rosedale Coal Co., has resigned to engage in the buying and selling of coal lands. **Cecil H. Humphries**, who has been acting as Eastern representative of the company, has been appointed to succeed Mr. Hatfield. The latter has been in charge of the affairs of the company since it took the lead in opening its mine on an open-shop basis in the Morgantown field.

There having been an unusually large number of fatal accidents in West Virginia in connection with the mining of coal, in the month of June, Chief R. M. Lamble of the Department of Mines has issued a warning to mine officials appealing for closer supervision. Out of the total number killed, twenty were employed less than one year in the mine in which the accident occurred and fifteen of those killed were employed less than one month. This is sufficient to show that the new employees, whether experienced or not, not being familiar with the local conditions and methods of work, must have close supervision. There were forty-one deaths and twenty of such were due to fall of coal, timbers and slate. Seven workers were killed in mine car accidents and three in motor accidents. Six met death through electrical shock and one was killed by an explosive. Of the remaining four fatalities, one was due to a mine car accident on the outside of the mine and three to miscellaneous causes.

Clarence D. Robinson, one of the leading operators of Fairmont was a recent visitor in the Morgantown market.

Buckner Clay, John D. Preston and R. S. Spilman have incorporated the **Rock Lick Smokeless Coal Co.**, of Charleston, for $1,000,000, and will mine coal in Fayette County.

ALBERTA

Mine-rescue and first-aid contests were held at Banff, Alberta, on June 30 and July 1 under the auspices of the Canadian Institute of Mining and Metallurgy. In the mine-rescue event there were thirteen entries, the Fernie (B. C.) team winning first place and taking the championship shield, the Charbonier Cup, individual cups and medals. Its score was 480 out of a possible 500. Others finished as follows: 2d, Michel; 3d, Bellevue; 4th, Blairmore, (No. 2); 5th, Gibson Colliery, Drumheller. In the senior first-aid contest there were eight entries and the results were: 1st, Drumheller Coal & Land Co.; 2d, Coleman International; 3d, Canmore; 4th, Lethbridge. There were seven teams of Boy Scouts in the junior first-aid event and the winners were: 1st, Lethbridge (No. 1), 2d, Lethbridge (No. 2); 3d, Calgary. The ladies first-aid event was won by a Calgary team. Premier Greenwood, of Alberta, presented the awards.

WASHINGTON, D. C.

For the year beginning July 1 the War Department has available, under Congressional appropriations just approved by Congress and the President, $3,500,000 for fuel for the Army. For the Military Academy at West Point, there is available $80,000 for the purchase of fuel during the year.

Traffic News

The Montana Coal & Iron Co., in a brief filed with the I. C. C. in the Western coal rate case requests the same rates per ton per mile on coal from Bear Creek, Mont., as are applied from Red Lodge, Sheridan and Kirby to all points in Montana, Washington, Idaho and Oregon, and a differential basis of rates on slack under lump coal.

The Indiana Power Co., of Vincennes, Ind., alleges unreasonable rates on coal switched at Edwardsport, Ind.

The Lincoln Gas Coal Co., Pittsburgh, alleges unreasonable rates on coal from its mines on the B. & O. between Pittsburgh and Wheeling to points in the Eastern and New England States. The company requests rates not in excess of those from other mines in the Finleyville, Moundsville and other districts on the B. & O.

The I. C. C. has decided, in the complaint of the West Kentucky Coal Bureau, that the rates on bituminous coal from western Kentucky mines on the Louisville & Nashville R. R. to Chattanooga, Tenn., and points in Georgia are unreasonable. It is held, however, that the maintenance of rates on bituminous coal from mines in Alabama, eastern Tennessee and southeastern Kentucky to Savannah and Port Wentworth, Ga., for export, while no export rates are made to these points from western Kentucky mines, is prejudicial to the western Kentucky mines.

Examiners of the I. C. C. have made recommendations as to the following coal rates: Rates on bituminous from points near Evansville, Ind., to Zion City and Chicago are not unreasonable. Rates on coal from Acmar, Ala., to Pensacola, Fla., and handling charges at the Pensacola dock are not unreasonable. Demurrage charges on coal at Worthington, Minn., and Hammond, Wis., are reasonable.

The I. C. C. has denied the application of the Illinois Central and Indianapolis Southern railroads to establish rates on bituminous coal and briquets from mines and stations on their lines and on the Chicago & Illinois Midland and other roads in Illinois and Indiana to points on the South Dakota Central.

The Ballard & Thompsons Railroad Co., operating a line connecting the properties of the American Fuel Co. with the D. & R. G. R. R. at Thompsons, in Grand County, has applied to the Public Utilities Commission for permission to operate as a common carrier. It is held that both the needs of the coal companies and the residents at Sego make it necessary for the operation of the road as a public carrier.

The I. C. C. held a hearing in Minneapolis during the third week in July upon the proposed cancelling of through rates on coal from Kentucky to the Northwest, and substituting the joint rate. This would increase the rate by 93c. The railroads urged the change and coal shippers opposed.

Deciding the complaint of the **Green Rock Coal Co.**, the I. C. C. holds that the rates on bituminous coal from Riceville, Ky., to interstate destinations are unreasonable because they exceed the rates from Group 5 district of the C. & O.

The railroads having cancelled the schedules, the commission has vacated its suspension and investigation of rates on soft coal from **Curtis Mine**, Colo.

In the complaint of the **American Smelting & Refining Co.**, the commission has decided that the demurrage and average free time at Baltimore on coke for exports are not unreasonable.

Representatives from the Chamber of Commerce of Toledo, Cleveland, Canton, Akron and other northern Ohio cities are preparing to aid the Southern Ohio Coal Exchange in its fight against the new differentials in coal freight rates as between Ohio fields and the inner and outer crescents of West Virginia. It is asserted that the new rates put into effect July 1 do not give the full 10-per cent reduction to Ohio fields when shipping to northern Ohio or for lake traffic.

Association Activities

Northern West Virginia Coal Operators' Association

The Northern West Virginia Coal Operators' Association made it plain in a telegram to President Harding on July 20 that they proposed to make an earnest effort to carry out his wishes with respect to a resumption of coal operations, and a general determination to resume wherever possible was reflected by the issuance of additional injunctions. Holding a meeting, members of the association accepted the President's invitation to open the mines and acquainted the President with their decision in the following telegram:

"The members of the Northern West Virginia Coal Operators' Association are heartily in accord with the invitation to resume operations, as expressed by you, and are at this time actively engaged in an earnest effort to carry out your wishes. We have conferred with Governor Morgan, who is thoroughly acquainted with our plans to date."

Officials of the United Mine Workers contend that union men will not return to work until an agreement is entered into.

Northwestern Dock Operators' Association

Henry E. Smith of St. Louis, was elected president of The Northwestern Dock Operators' Association at its recent meeting in Chicago. Mr. Smith is vice-president of M. A. Hanna Coal & Dock Co. The other officers chosen were: Vice-president, J. L. McMahon of Milwaukee, Western manager of the Youghiogheny & Ohio Coal Co.; secretary-treasurer, W. A. Prinsen, of Chicago.

Coming Meetings

New York State Coal Merchants' Association will hold its annual meeting at Richfield Springs, N. Y., Sept. 7-9. Executive secretary, G. W. F. Woodside, Arkay Bldg., Albany, N. Y.

National Safety Council. Eleventh annual Safety Congress at Detroit, Mich., Aug. 28 to Sept. 1. Executive secretary, W. H. Cameron, North Michigan Ave., Chicago, Ill.

Coal and Industrial Exposition under the auspices of the Huntington Chamber of Commerce will be held Sept. 18-23 in the Chamber of Commerce Bldg., Huntington, W. Va. **The West Virginia-Kentucky Association of Mine, Mechanical and Electrical Engineers** will again hold its annual meeting in the same building during the exposition.

National Exposition of Chemical Industries will hold its eighth national exposition at the Grand Central Palace, New York City, Sept. 11-16. Manager, Charles F. Roth, Grand Central Palace, New York City.

American Institute of Mining and Metallurgical Engineers will hold its fall meeting during the week of Sept. 25 at San Francisco, Cal. It is proposed to arrange for a party to leave New York on Sept. 10, stopping at different cities en route. Secretary, F. F. Sharpless, Engineering Societies Building, New York City.

American Chemical Society's annual fall meeting will be held Sept. 4-9 at Pittsburgh, Pa.; divisional meetings will be held at Carnegie Institute of Technology and general meetings at Carnegie Music Hall.

American Mining Congress. Twenty-fifth annual convention and exposition of mines and mine equipment will be held at Public Hall, Cleveland, Ohio, Oct. 9-14. Executive offices, the Hollenden Hotel; E. C. Porter, convention manager.

The Rocky Mountain Coal Mining Institute will hold its next meeting at Glenwood Springs, Col., Sept. 7-9. Secretary, F. W. Whiteside, Denver, Col.